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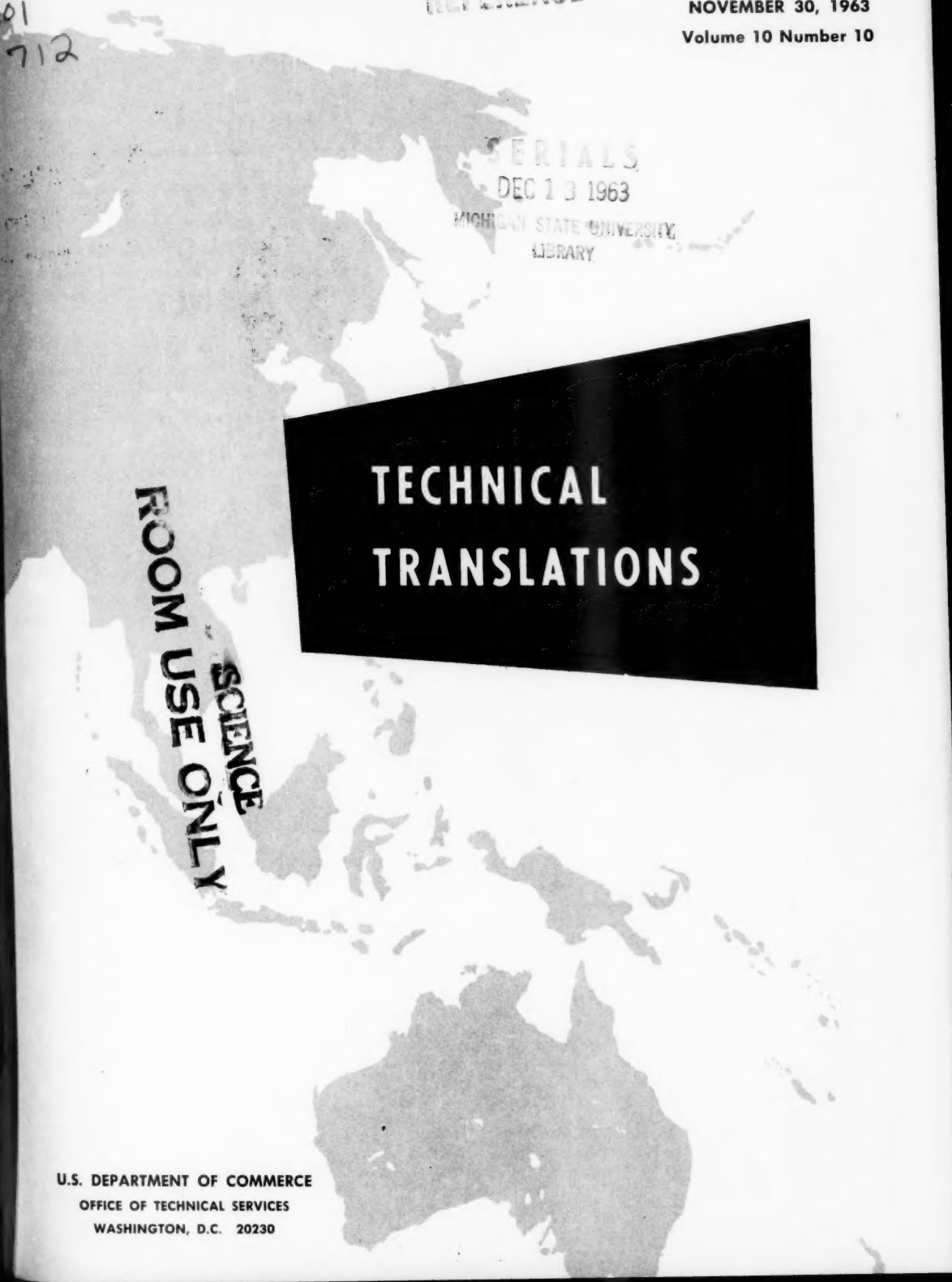

TECHNICAL TRANSLATIONS

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TECHNICAL TRANSLATIONS

U.S. DEPARTMENT OF COMMERCE
Luther H. Hodges, *Secretary*

OFFICE OF TECHNICAL SERVICES
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TECHNICAL TRANSLATIONS

Volume 10, Number 10 Pages 1167 - 1312 November 30, 1963

*Descriptors marked with an asterisk are included in the subject index.

BIBLIOGRAPHY

Library of Congress, Washington, D. C.
MONTHLY INDEX OF RUSSIAN ACCESSIONS. Oct 63, 325p.
Order from GPO $12.00/year

This index is a record of the publications in languages spoken in the Soviet Union currently received by the Library of Congress and a group of cooperating libraries. It consists of three parts: Part A lists monographic literature published after 1944, with the title in the original language preceded by its English translation; Part B lists periodicals published after 1946; Part C constitutes a subject guide to both the monographs and periodical articles listed in Parts A and B.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 262 (GENERAL SERIES). 9 Aug 63, 7p. JPRS: 20571.
Order from OTS $0.50 63-31490

Abstract trans. of Bulgarska Akademiya na Naukite. Spisanie, 1963, v. 8, no. 1, p. 4-49, 65-123.

DESCRIPTORS: *Abstracts, Bibliographies, *Scientific organizations, Computers, Plants (Botany), Conferences, Economics, Coal, Irrigation systems, Psychology, Libraries.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 274 (GENERAL SERIES). 22 Aug 63, 21p. JPRS: 20774.
Order from OTS $0.75 63-31603

Consists of abstracts of articles from the scientific and technical journals of East Germany and Rumania.

DESCRIPTORS: *Abstracts, Bibliographies, *Mathematics, *Physics, Plasma physics, Shock waves, Hydrodynamics, *Chemistry, Electrochemistry, Complex compounds, *Microbiology, *Biochemistry, Parasites, *Astronomy, Spectroscopy, Photoconductivity, Plastics, Materials, Plants (Botany), Aeronautics, *Electronics.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 296 (GENERAL SERIES). 16 Sep 63, 7p. JPRS: 21092.
Order from OTS $0.50 63-31767

Abstract trans. of Academia Republicii Populare Romine. Comunicarile, 1963, v. 13, no. 7, p. 575-581, 583-593, 595-617, 619-637, 639-649, 651-660.

DESCRIPTORS: *Abstracts, Bibliographies, *Mathematics, *Quantum mechanics, *Plants (Botany), Soils.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 300 (GENERAL SERIES). 23 Sep 63, 8p JPRS: 21181.
Order from OTS $0.50 63-31809

Abstract trans. of Stiinta si Tehnica (Rumania) 1936, v. 15, no. 7, p. 3-19, 21-28, 30-34, 36-38, 40-45.

DESCRIPTORS: *Abstracts, *Bibliographies, Scientific research, Industrial research, Medical research, Biochemistry, Social sciences, Solar radiation, Spacecraft.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 302 (GENERAL SERIES). 25 Sep 63, 12p JPRS: 21211.
Order from OTS $0.50 63-31820

Abstracts trans. of Magyar Tudomany (Hungary) 1963 [v. 8(70)] no. 6/7, p. 369-461, 463-475, 479-502.

DESCRIPTORS: *Abstracts, *Bibliographies, Language, Dictionaries, Scientific research, Industrial research, Social sciences, Mathematics, Agriculture.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 304 (GENERAL SERIES). 26 Sep 63, 10p JPRS: 21220.
Order from OTS $0.75 63-31824

Consists of abstracts of articles from the scientific and technical journals of Poland and Rumania.

DESCRIPTORS: *Abstracts, *Bibliographies, Natural resources, Coal mining, Medical research, Industrial research, Scientific research, Mechanics, Acoustics, Language, Conferences, Biology, Social sciences.

NORTH KOREAN SCIENTIFIC PUBLICATIONS AND AUTHORS. 29 July 63, 43p. JPRS: 20394.
Order from OTS $1.25 63-31405

Consists of biographic data compiled from Choson Minjujuui Inmin Konghwaguk Kwahagwon T'ongbo (North Korea) 1962, nos. 5-6 and Hwahak Kwa Hwahak Kongop (North Korea) 1962, nos. 1-2, 4-6 and 1963, nos. 1-2.

DESCRIPTORS: *North Korea, *Scientific research, *Reports, *Bibliographies, Biographies.

AGRICULTURE

JUSTIFIED APPLICATION OF CHILE SALTPETER. [1963] 5p
Order from SLA $1.10 63-16057

Trans. of Maandbl[ad voor de] Landbouwvoorl[ichtingsdienst] (Netherlands) 1952, v. 9, no. 12, p. 454-455.

DESCRIPTORS: *Fertilizers, *Sodium compounds, *Nitrates, Calcium compounds, Ammonium compounds, Beets.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 86. 26 Aug 63, 11p. JPRS: 20808.
Order from OTS $0.50 63-31625

Trans. of Agitator (USSR) 1963 [no. 12] p. 64 and 22 short articles from 1963 issues of 11 Russian newspapers.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Industrial training, Commerce, Handling.

Contents:
Tractors
Agricultural machinery
Production methods
New agricultural equipment.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL NO. 88. 30 Aug 63, 6p. JPRS: 20862.
Order from OTS $0.50 63-31648

Trans. from Ekonomicheskaya Gazeta (USSR) 1963, no. 26[99] p. 42-43 and Turkmenskaya Iskra (USSR) 1963, 13 July, p. 2.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Vehicle accessories, Agriculture, Machines, Vehicles, Automotive industry, Construction.

Contents:
Spare parts: field and farm equipment
Moscow city sovnarkhoz takes action
Turkmen plant fulfills order.

USSR INDUSTRIAL DEVELOPMENT: SOVIET TRACTORS AND AGRICULTURAL MACHINERY NO. 89. 12 Sep 63, 30p. JPRS: 21056.
Order from OTS $1.00 63-31752

Trans. of Finansy SSSR, 1963 [v. 24] no. 7, p. 69; Mashinostroitel' (USSR) 1963, no. 7, p. 7, 11, 13; Narodnoe Khozyaistvo Kazakhstana (USSR) 1963 [v. 21] no. 6, p. 67; Verkhovnyi Sovet. Vedomosti (USSR) 1963 [v. 26] no. 31(1170) p. 823; Lesnaya Promyshlennost' (USSR) 1963 [v. 41] no. 7, p. 6; and 41 selected short articles from 1963 issues of 21 Russian newspapers.

DESCRIPTORS: *Industrial production, *Tractors, *Agricultural machinery, Radio equipment, Labor, Management engineering, Machines, Soils, Erosion, Maintenance, Tractor engines, Quality control, Supplies, Industrial equipment.

Contents:
Tractors
Agricultural machinery
Production methods
Radio-driven tractor built in Krasnoyarsk
Production deficiencies in Leningrad Kirov tractor plant
Complaints on production in Kazakhsel'mash plant
Wide-swath threshers and machines for fighting soil erosion
Progress in Kirovgorod repair plant
Repair plan strives to increase quality of products
Industrial progress in Minsk tractor plant
Production activities of Berdyansk Pervomaisk Agmash plant
Farm machinery plants urged to improve techniques.

Pawlikowski, S., Szymonik, S., and Chomiakow, A.
HET HYGROSCOPISCH ACTIEVE OPPERVLAK VAN GEGRANULEERDE KUNSTMESTSTOFFEN (O Czynnej Higroskopijnie Powierzchni Granulowanych Nawozow Sztucznych) (Hygroscopically Active Surface of Granulated artificial Fertilizers). 14p (foreign text included) 6 refs MTWL-1124.
Order from OTS or ETC $1.15 63-26209

Trans. in Dutch of Chemia Stosowana (Poland) 1960, v. 4, no. 2, p. 243-252.

DESCRIPTORS: *Fertilizers, Surface-active substances, Powders, *Nitrates, *Ammomium compounds, Humidity.

Shamis, D. L.
THE USE OF MICROORGANISMS IN FEED PRODUCTION. 16 Aug 63, 5p. JPRS: 20677.
Order from OTS $0.50 63-31549

Trans. of Akademiya Nauk SSSR. Vestnik, 1963 [v. 33] no. 5, p. 58-60.

DESCRIPTORS: *Microorganisms, *Food, Cattle, Yeasts, Biosynthesis, *Corn, Lactobacillaceae, Fermentation.

Szafnicki, J.
DE HYGROSCOPICITEIT EN HET SAMENKOEKEN VAN KUNSTMESTSTOFFEN (O Higroskopijności i Zbrylaniu się nawozów sztucnych)Hygroscopicity and Caking of Synthetic Fertilizers) 9p (foreign text included) 7 refs MTWL-1123.
Order from OTS or ETC $0.95 63-26208

Trans. in Dutch of Chemik (Poland) 1961, v. 14, p. 61-63

DESCRIPTORS: *Fertilizers, Synthesis (Chemistry). Humidity.

Animal Husbandry

CONFERENCES AND PERSONNEL NOTES IN VETERINARY SCIENCES. 17 Sep 63, 54p.
JPRS: 21121.
Order from OTS $1.50 63-31777

Trans. of Veterinariya (USSR) 1962 [v. 39] no. 10, p. ##92, ##95-96; no. 11, p. 92-94; no. 12, p. 76, 80-82; 1963 [v. 40] no. 1, p. 5; ###no. 3, p. 93, 95-96; no. 4, p. 87-90.
##Another trans. is available from OTS $1.00 in 63-21070, JPRS-17519, 7 Feb 63 [38p].
###Another trans. is available from OTS or SLA $1.10 in 63-23805, 9 Sep 63, 10p.

DESCRIPTORS: *Conferences, *Veterinary medicine, *Ticks, *Antibiotics, Agriculture, *Epidemiology, *Sanitary engineering, *Brucellosis, Theses, Awards.

Contents:
##Conference-Seminar of Veterinary Specialists, by B. Kotenko
##Conference-Seminar of Veterinary Specialists of Tambovskaya Oblast, M. B. Samaryanov
##Conference on Problems of Control of Ixodes Ticks, by A. Burdov
##Seminar of Workers Producing Antibiotics for Animal Husbandry, by V. M. Podkopaev
##Seminar of Epizootologist, by B. S.
##Coordinating Conference of Specialists of Veterinary Scientific Research Institutes of the Countries of the Socialist Camp (no. 2) (partial trans.) by [A. N. Kas'yanov]
The decision of the Tyumenskaya oblast Soviet of Workers' deputies, by I. D. Medvedev
Seminar of Veterinary Physicians, by B. Zinov'ev
Conference of Veterinary Workers, by Yu. Sazonov
Problems of veterinary sanitation and arachnoentomoses at the plenum of the department of animal husbandry of all-union academy of agricultural sciences imeni Lenin, by A. A. Polyakov
Aleksandr Aleksandrovich Markov
Doctor of biological sciences professor P. A. Voloskov, by N. N. Mikhailov
Oblast Seminar of Veterinary Physicians, by F. Logvin
Semen Georgievich Kolesov
###Professor A. A. Volkova, by E. D. Imanov
International Seminar on Brucellosis of Agricultural Animals for Veterinary Specialists of the Under-Developed Countries, by A. N. Kas'yanov
Conference on Veterinary-Sanitary Expertise, by L. M. Krapivner.

Engelmann, Carlheinz.
FURTHER EXPERIMENTS ON THE TASTE SENSE OF CHICKENS: SUMMARY. [1963] 2p. 1 ref.
Available from SLA on loan 63-14951

Partial trans. (summary only) of Zeitschurift für Vergleichende Physilogie (Germany) 1936/1937, v. 24, p. 462.

DESCRIPTORS: *Taste, Chemoreceptors, Chickens. Food.

Odynets, R. N., Fantalis, I. A. and Valuiskii, P. P.
STOFWISSELING VAN CHLOOR BIJ MELKKOEIEN (Metabolism of chlorine with milch-cows). 6p 6 refs MTWL-1148.
Order from OTS or ETC $0.80 63-26600

Trans. in Dutch of Akademiya Nauk Kirgizskoi SSR, [Frunze]. Izvestiya, Seriya Biologicheskikh Nauk, 1960, v. 2, no. 4, p. 15-17.

DESCRIPTORS: *Chlorine, *Metabolism, Mammals, Milk, *Cattle.

Plant Cultivation

Bernard, V. V. and Geller, I. T.
THE EFFECT OF GAMMA-RAYS ON SOME GROUPS OF SOIL MICROFLORA. 17p. 10 refs. DTC-24.
Order from OTS, ETC or DTC $0.80 63-26958

Trans. of Agrobiologiya (USSR) 1962, no. 4, p. 610-616.

DESCRIPTORS: *Gamma rays, Soils, Microorganisms.

Dukat, Vojtech.
STRENGTH AND ELASTICITY OF CIGAR TOBACCO, AS FACTORS INFLUENCING ITS USE IN PRODUCTION. [1963] 6p
Order from K-H $6.00 K-H 12818

Trans. of Prum[ysl] Potravin (Czechoslovakia) 1958, v. 9, no. 12, p. 644-645.
Another trans. is available from SLA mi$1.80, ph$1.80 as 60-18480 [1960] 5p.

DESCRIPTORS: *Tobacco, Physical properties, Tensile properties, Elasticity, Test methods.

For abstract see Technical Translation 4: 646, 1960.

Izawa, Masao and Yamamoto, Katsuki.
STUDIES ON THE PREVENTION OF MOLD DEVELOPMENT ON TOBACCO LEAVES. PT. 2. PREVENTION OF MOLD DEVELOPMENT BY IRRADIATION WITH ULTRAVIOLET RAYS. [1963] 22p 17refs
Order from SLA $2.60 63-18510

Trans. of [Nihon Senbai Kosha Chuo Kenkyusho Kenkyu Hokoku] (Japan) 1954, v. 90, p. 107-117.
Another trans. is available from K-H $27.50 as K-H-11436-e [1962] 22p.

DESCRIPTORS: *Tobacco, Plants (Botany), *Molds (Organisms), *Ultraviolet radiation, Cigarettes.

The sterilization of tobacco leaves with ultraviolet rays was investigated. The isolated spores of Asp. oryzae, Asp. niger and Pen. glaucum that had been irradiated with the ultraviolet rays emitted by a 20-w quartz mercury vapor lamp from a distance of 10 cm. for 60-120 seconds failed to grow on a tobacco extract agar culture medium. The whole and sliced tobacco leaves and cigarettes were only partially sterilized by the irradiation with ultraviolet rays. Mixing of sliced tobacco leaves during their exposure to ultraviolet rays facilitated their sterilization to some extent. To reward development of molds on cigarettes, they may be exposed to ultraviolet rays immediately before they are packaged. (Author)

Konovalov, N. A. and Povarnitsyn, V. A.
METHODS OF STATISTICAL-PHYTOSOCIOLOGICAL ANALYSIS OF FOREST ASSOCIATIONS (K Metodike Statistiko-Fitosotsiologicheskogo Analiza Lesnykh Assotsiatsii) tr. by R. J. Zatorski. [1963] [61]p. (foreign text included) 5 refs. [CSIRO] Trans. no. 6186.
Order from OTS or SLA $6.60 63-19969

Trans. of [Lesotechnicheskaya Akademiya, Leningrad. Trudy] (USSR) 1927, v. 35, p. 69-104.

DESCRIPTORS: *Forestry, *Trees, Ecology, Biological environment, Pine, Grasses, Mosses, Statistical analysis.

Rutkovskii, V. I.
HYDROLOGICAL IMPORTANCE OF FORESTS AND FOREST MANAGEMENT (Gidrologicheskaya Rol' Lesa i Lesnoe Khozyaistvo) tr. by B. Ribush. [1963] [103]p. (foreign text included) 68 refs. [CSIRO] Trans. no. 6099.
Order from OTS or SLA $9.10 63-19604

Trans. of Vsesoyuznyi Nauchno-Issledovatel'skii Institut Lesnogo Khozyaistva. [Issledovaniya po Lesnomu Khozyaistvu] (USSR) 1940, v. 18, p. 65-112.

DESCRIPTORS: *Forestry, *Trees, *Plants (Botany), *Hydrology, Soils, Erosion, Climatology, Oceans, Rivers, Evapotranspiration.

Steindorff, A., Pfaff, K., Erlenbach, M., and Staudermann, W.
SOIL TREATMENT AGENTS TO COMBAT FUNGOID PLANT PESTS. [1963] 2p
Order from OTS or SLA $1.10 63-18984

Trans. of German patent 682,048, appl. 23 Dec 32, issued 6 Oct 39, by I. G. Farbenindustrie.

DESCRIPTORS: *Soils, *Plants (Botany), Pest control, Fungicides, *Benzene derivatives, *Pesticides.

Trifu, I. S., Mihailovici, I. C., and Dimofte, N.
DIRECT FERMENTATION OF GREEN TOBACCO LEAF. [1962] 17p.
Order from K-H $21.25 K-H 3084 d

Trans. of Bul[etinul] Cult[ivarei] si Ferm[entarei] Tutun[ului] (Rumania) 1953, v. 40, p. 3-10.

DESCRIPTORS: *Tobacco, Fermentation.

ASTRONOMY

NEWS OF THE MAIN ASTRONOMICAL OBSERVATORY IN PULKOVO, 1960, VOL. 22, NO. 1(166): [SELECTED] TRANSLATIONS. 20 Aug 63, 247p. 126 refs.
Order from OTS $3.50 63-11675

Trans. of Glavnaya Astronomicheskaya Observatoriya, Pulkovo. Izvestiya (USSR) 1960, v. 22, no. 1(166) p. 3-122, 135-137, 151-156, 176-183, 197-208.

DESCRIPTORS: *Astronomical observatories, *Astrophysics, Reports, Astronomy, *Optical instruments, Optical tracking, Photography, Photoelectric effect, Planets, Position finding, Programming (Computers).

Contents:
Design of a new transit instrument for absolute determination of the right ascensions of stars, by A. A. Nemiro
A photographic vertical circle, by M. S. Zverev
Problems of the theory of a horizontal meridian instrument, by A. A. Sukharev
An investigation of the division errors of the Pulkovo vertical circle, by B. K. Bagil'dinskii
Investigation of pivots of the Nikolaev meridian circle, by I. I. Bozhko and Ya. E. Gordon
The investigation of the pivots of the large transit instrument at Pulkovo observatory by means of Uverskii interferometer, by V. N. Shishkina
Experimental photoelectric registration of star transits using the large transit instrument of the Pulkovo observatory, by A. I. Plyugina
The results of work of the photoelectric transit instrument of the time service of the Nikolaev branch of the Main Astronomical Observatory of the Academy of Sciences of the USSR during six months of IGY, by A. S. Kharin
The compilation of a program for the Talcott method by means of punched card machines, by D. D. Polozhentsev
The accuracy of measurements of minor planets on

plates obtained with the Pulkovo normal astrograph, by N. V. Fatchikhin
Investigation of the objective of the 26" Pulkovo refactor, by I. I. Kanaev
An investigation of the measuring engine KIM-3, no. 550002, by II. Kanaev and Wan Lai
The registration of standard time during photographic observations of the second satellite (1957 β) at Pulkovo, by B. A. Firago.

NEWS OF THE MAIN ASTRONOMICAL OBSERVATORY IN PULKOVO, 1961, VOL. 22, NO. 1(168): [SELECTED] TRANSLATIONS. 20 Aug 63, 83p. 22 refs.
Order from OTS $2.25 63-11676

Trans. of Glavnaya Astronomicheskaya Observatoriya, Pulkovo. Izvestiya (USSR) 1961, v. 22, no. 3(168) p. 45-50, 56-64, 98-146.

DESCRIPTORS: *Astronomical observatories, *Astrophysics, Reports, Astronomy, Azimuth, Position finding, Moon Photographic analysis, Automation, Pulse counters, Circuits.

Contents:
The effect of azimuth, axial inclination, and collimation on the results of latitude determinations by the Horrebow-Talcott method, by A. A. Nemiro
The determinations of ephemeris time from the photographic observations of the moon at Pulkovo, by Kh. I. Potter
The automation of observations with the Pulkovo PZT, by V. A. Naumov
Electronic pulse counting circuits and their use by the time service, by E. M. Vinnikov and M. A. Ishchenko.

SOVIET-BLOC RESEARCH IN GEOPHYSICS, ASTRONOMY, AND SPACE, NO. 67. 17 Sep 63, 15p. JPRS: 21124
Order from OTS $16.00/year 61-11147-67
foreign $20.00/year

DESCRIPTORS: *Geophysics, *Astronomy, *Astronautics, *Upper atmosphere, *Space probes, *Astrophysics, Oceanography, Meteorology.

Consists of news items and abstracts of scientific articles on astronomy, meteorology, oceanography, terrestrial geophysics, upper atmosphere and space research, and other miscellaneous subjects.

Lopukhin, E. A.
SPECTRAL MEASUREMENTS OF RADIATION FLUXES AT TASHKENT. [1963] [17]p. (figs. tables omitted) 17 refs. [DSIR] NLL M. 3817.
Order from OTS or SLA $1.60 63-19746

Unedited trans. of Sredneaziatskii Nauchno-Issledovatel'skii Gidrometeorologicheskii Institut. Trudy (USSR) 1959, no. 2(7) p. 139-[159].

DESCRIPTORS: *Ultraviolet radiation, Sun, Sky, Spectrographic analysis, Solar spectrum.

Astrophysics

Kozhevnikov, N. I., Makarova, E. A., and Sitnik, G. F.
BAND MODEL FOR INFRARED RADIATION ABSORPTION BY WATER VAPOR. 27 Sep 63, 10p. 11 refs JPRS: 21243.
Order from OTS $0.50 63-31839

Trans. of Moscow U. Vestnik [Seriya 3]: Fizika, Astronomiya (USSR) 1963 [v. 18] no. 1, p. 54-61. Another trans. is available from OTS or SLA $1.60 as 63-18165 [1963] 11p.

DESCRIPTORS: *Water vapor, *Absorption, *Infrared radiation, Models (Simulations), Line spectrum, Band spectrum, Absorption spectrum.

The article describes the experimental results with the aid of theoretical models of bands of absorption, and lists the results of computation of bands consisting of irregularly distributed lines. (Author)

Shklovskii, I. S.
THE PROBLEM OF THE IONIZATION OF THE SOLAR CORONA (Problema Ionizatsii Solnechnoi Korony). tr. by James Gough, Jr. and David Kraus. Oct 56 [75p] 104refs AmMetSoc T-R-94.
Contract AF 19(604)1364.
Order from OTS or SLA $7.60 63-24026

Trans. of mono. Solnechnaya Korona (The Solar Corona) Moscow, 1951, chap. 4, p. 189-246.

DESCRIPTORS: *Solar corona, *Ionization, Thermodynamics, Hydrogen, Iron, Nickel, Atoms, Electrons, Distribution, Astrophysics, *Solar atmosphere.

Departure from a state of thermodynamic equilibrium in the upper layers of the sun's atmosphere, review of existing theories on the ionization of the solar corona; general remarks on the "ionization formula" for systems not in a state of thermodynamic equilibrium; ionization of hydrogen in the corona; ionization of iron and nickel in the corona; comparison of the theory of coronal ionization with observational results; the time required to establish ionization equilibrium in the corona; the relative abundance of iron and hydrogen in the corona; and possible reasons for the mixing of elements in the solar corona.

BEHAVIORAL SCIENCES

Akosh, Karoi.
STUDIES IN ANIMAL BEHAVIOR. 19 Sep 63, 14p 1ref JPRS: 21149.
Order from OTS $0.50 63-31794

Trans. of Nauka i Tekhnika (Latvian SSR) 1963, no. 6, p. 14-18.

DESCRIPTORS: *Animals, *Behavior, Psychology.

Gudjonsson, Haraldur.
A STUDY OF THE SMOKING HABITS OF ADOLESCENTS IN THE SECONDARY SCHOOLS OF REYKJAVIK. [1963] [11p] 6refs
Order from SLA $1.60 63-18515

Trans. of Laeknabladid (Iceland) 1961, v. 45, no. 1, p. 1-7.
Another trans. is available from K-H $12.50 as K-H-11279-e [1962] 10p.

DESCRIPTORS: *Smokes, *Tobacco, *Students, Iceland.

Vekker, L. M.
TOWARDS A COMPARATIVE ANALYSIS OF OBJECTIVAL ACTIONS AND OPERATIONS OF CONTROL. 30 July 63, 15p. JPRS: 20403; NASA N63-19840.
Order from OTS $0.50 63-31412

Trans. of #Voprosy Psikhologii (USSR) 1963 [v. 9] no. 2, p. 17-29.

DESCRIPTORS: Automation, *Control systems, *Cybernetics, Control, Man, Positioning reactions, Machines, Physiology, Analysis.

The first direction of developing control functions and control systems stems from human requirements, from general principles of psychic regulation. The trend toward "objectivalization" of information, to its reduced coded form, aligning information closer to the structure which it has in machine links of the circuit, inevitably and directly follows the process of technical progress aimed at transferring certain control functions to the machine. The reduced-coded structure of information, together with formalization of the corresponding operations and the rise of algorithms, which can be programmed in the form of a set of codes, establishes the condition for the possibility of automating control operations.

Personnel and Training

BIOGRAPHIES OF SOVIET SCIENTISTS. 30 Aug 63, 58p. JPRS: 20870.
Order from OTS $2.50 63-31656

Trans. of 13 selected biographical articles from various Soviet sources.

DESCRIPTORS: *Scientific personnel, *Biographies.

Contents:
V. A. Baronov, Ya. M. Britvan, M. E. Fridman, A. V. Fursenko, Z. I. Izrael'son, V. I. Krilov, E. B. Kuriyandskaya, N. M. Nevskii, Ya. G. Panovko, A. A. Saukov, A. N. Sevchenko, A. B. Volovik, A. M. Zaleskii.

CZECHOSLOVAK PHYSICAL SCIENTISTS: BIOGRAPHIC DATA. 14 Aug 63, 12p. JPRS: 20650.
Order from OTS $0.50 63-31537

Trans. of Chemicke Listy (Czechoslovakia) 1963, v. 57, no. 5, p. 556-558; Geodeticky a Kartograficky Obzor (Czechoslovakia) 1963, v. 9, no. 6, p. 155; Geograficky Casopis (Czechoslovakia) 1963, v. 15, no. 2, p. 147-148; Meteorologicke Zpravy (Czechoslovakia) 1963, v. 16, no. 1, p. 1; Ustredni Ustav Geologicky. Vestnik (Czechoslovakia) 1963, v. 38, no. 3, p. 213.

DESCRIPTORS: *Scientific personnel, *Geographers, *Engineering personnel, Geology, *Chemists, Meteorology.

Contents:
P. Hrubes, V. Majer, J. Martinka, A. Simek, K. Zapletal.

INFORMATION ON SOVIET AND CZECHOSLOVAK SCIENTISTS. 20 Aug 63, 6p. JPRS: 20717.
Order from OTS $0.50 63-31573

Trans. of Akademiya Nauk SSSR. Vestnik, 1963 [v. 33] no. 4, p. 98-100.

DESCRIPTORS: *Scientific personnel, Geology, *Chemists, *Physicists.

Contents:
A. P. Aleksandrov, D. D. Blagoi, M. A. Leontovich, B. M. Petrov, D. I. Shcherbakov, F. Sorm.

NEW DOCTORS AND CANDIDATES [AND] KOSSUTH-PRIZE WINNERS FOR 1963. 30 Aug 63, 10p. JPRS: 20869.
Order from OTS $0.50 63-31655

Trans. of Magyar Tudomany (Hungary) 1963 [v. 8(70)] no. 4, p. 288-292.
Abstract trans. is available from OTS $0.50 in 63-31105, JPRS-19824, 24 June 63, 11p.

DESCRIPTORS: *Scientific personnel, Students, *Theses, *Awards.

Metel'skii, F. M.
THE ROLE OF SCIENTIFIC AND ENGINEERING PERSONNEL IN RAISING LABOR PRODUCTIVITY. 24 Sep 63, 18p JPRS: 21201.
Order from OTS $0.50 63-31816

Trans. of mono. Voprosy Proizvoditel'nosti Truda v Period Stroitel'stva Kommunizma (The Problem of Labor Productivity in the Period of Communist Building) Moscow, 1961, p. 398-413.

DESCRIPTORS: *Scientific personnel, *Engineering personnel, *Labor, *Industrial production, Personnel management, Education, Scientific research, Research program administration.

BIOLOGICAL SCIENCES

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 255 (BIOLOGY AND MEDICINE SERIES). 6 Aug 63, 16p. JPRS: 20506.
Order from OTS $0.50 63-31460

Consists of abstracts of articles from the scientific and technical journals of Hungary and Poland.

*Abstracts, Bibliographies, *Biology, *Medicine, Neurology, Diseases, Diagnosis, Conditioned reflex, Heart, Otorhinolaryngology, Resuscitation, Surgery, Liver, Medical equipment, Pathology, Antigens and antibodies, Metabolism, Cybernetics, Estrogens, Veterinary medicine, Cells (Biology), Cancer, X-rays, Blood chemistry.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 258 (BIOLOGY AND MEDICINE SERIES). 7 Aug 63, 31p. JPRS: 20528.
Order from OTS $1.00 63-31473

Consists of abstracts of articles from the scientific and technical journals of Hungary and Poland.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, Fishes, Biochemistry, Muscles, Drugs, Cardiovascular system, Diseases, Brain, Vitamins, *Veterinary medicine, Bacteria, Blood, Plants (Botany), Estrogens, Genetics, Lipids, Respiration, *Pharmacology, *Communicable diseases, Viruses, Immunity.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 259 (BIOLOGY AND MEDICINE SERIES). 7 Aug 63, 19p. JPRS: 20532.
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Consists of abstracts of articles from the scientific and technical journals of Hungary and Poland.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, *Surgery, Antibiotics, Diseases, Purification, Inflammation, Neoplasms, Polyamide plastics, Pathology, Lungs, Anticoagulants, Gynecology, Allergy, Viruses, Dental caries, Neuroses, Heart, Manganese, Water supplies, Serum, Arteries, Enzymes, Gastropoda

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 260 (BIOLOGY AND MEDICINE SERIES). 9 Aug 63, 8p. JPRS: 20567.
Order from OTS $0.50 63-31487

Abstract trans. of Polski Tygodnik Lekarski, 1963, v. 18, no. 19/20, p. 649-716.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, Public health, Diseases, Neurology, Vision, Drugs, Surgery, Metabolism, Urnary system, Kidneys, Hematology, Skin, Immunology, Birth.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 265 (BIOLOGY AND MEDICINE SERIES). 9 Aug 63, 9p. JPRS: 20585.
Order from OTS $0.50 63-31497

Abstract trans. of Veterinarski Glasnik (Yugoslavia) 1963, v. 17, no. 6, p. 475-489, 491-501, 503-505, 507-521, 523-549, 551-557.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, *Veterinary medicine, Radiotherapy, Sex, Costs, Animals.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 271 (BIOLOGY AND MEDICINE SERIES). 16 Aug 63, 23p. JPRS: 20679.
Order from OTS $0.75 63-31551

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia and Yugoslavia.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, *Pharmacology, *Drugs, Steroids, Cancer, Endocrine glands, Electromagnetic fields, Neoplasms, Hearing, Diet, Physiology, Radiation effects, Cells (Biology), Neurology, Lipids, Birth, Pain, Psychosomatic medicine, Diseases, Diagnosis, Conferences.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 287 (BIOLOGY AND MEDICINE SERIES). 6 Sep 63, 18p. JPRS: 20955.
Order from OTS $0.50 63-31693

Consists of abstracts of articles from the scientific and technical journals of Rumania.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Mediciene, *Microorganisms, *Parasites, *Epidemiology, *Veterinary medicine.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 291 (BIOLOGY AND MEDICINE SERIES). 11 Sep 63, 40p. JPRS: 21012.
Order from OTS $1.25 63-31724

Consists of abstracts of articles from the scientific and technical journals of Bulgaria and Czechoslovakia.

DESCRIPTORS: *Abstracts, Bibliographies, Biology, *Medicine, *Neurology, *Psychiatry, Nervous system, Mental diseases, *Psychotropic agents.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 298 (BIOLOGY AND MEDICINE SERIES). 17 Sep 63, 31p. JPRS: 21126.
Order from OTS $1.00 63-31778

Consists of abstracts of articles from the scientific and technical journals of Yugoslavia.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, *Diseases, Cancer, Medical laboratories, *Surgery, Reproduction (Physiology), Pharmacology, Vaccines, *Veterinary medicine, Ear, Noise, Gynecology, Ophthalmology, Anatomy, Allergy, Drugs, Animals, Otorhinolaryngology.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 301 (BIOLOGY AND MEDICINE SERIES). 24 Sep 63, 30p JPRS: 21199.
Order from OTS $1.00 63-31814

Consists of abstracts of articles from the scientific and technical journals of Bulgaria and Yugoslavia.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, Morphology, Diseases, Cardiovascular system, Drugs, *Pharmacology, Serum, Radiation effects, Biochemistry, Diagnosis, Medical examination, *Radiobiology, *Antibiotics, Epidemiology, Respiration, Microorganisma, Vaccines.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 306 (BIOLOGY AND MEDICINE SERIES). 27 Sep 63, 7p JPRS: 21238.
Order from OTS $0.50 63-31835

Abstract trans. of Magyar Pszichologiai Szemle [sic] (Hungary) 1963, v. 20, no. 2, p. 181-264, 270-286, 290-293, 306-308.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, *Psychology, Emotions, Personality, Speech, Language, Communication theory, Vision, Anthropology, Reasoning, Mental deficiency, Education, Fatigue (Physiology).

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 308 (BIOLOGY AND MEDICINE SERIES). 2 Oct 63, 33p JPRS: 21283.
Order from OTS $1.00 63-31863

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia, Hungary, and Poland.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, *Medicine, Economics, Pharmacology, *Industrial medicine, Acetates, Fluoroacetic acids, Psychiatry, Public health, Radioactive fallout, Machines, Gas flow, Plastic pipes, Plants (Botany), Cells (Biology), Nerve cells, Thermodynamics, Radiobiology, Histology, *Biochemical genetics, *Diseases, Diagnosis, Wounds and injuries, Surgery, Drugs, Cancer, Blood proteins, Pregnancy, Vaccines, Epidemiology, Parasites, Germicides, Children.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 91 (BIOLOGY SERIES). 27 Sep 63, 53p JPRS: 21237.
Order from OTS $1.50 63-31834

Trans. of selected abstracts from Referativnyi Zhurnal. Biologiya (USSR) 1962, no. 2, 7-9, 17.

DESCRIPTORS: *Abstracts, Bibliographies, *Biology, China, Microorganisms, Anatomy, Physiology, Soils, Plants (Botany), Forestry, Parasites.

ACTIVITIES OF MEDICAL AND BIOLOGICAL INSTITUTIONS OF THE SOVIET UNION. 30 Aug 63, 42p. 14 refs. JPRS: 20857.
Order from OTS $1.25 63-31646

Trans. of Botanicheskii Zhurnal (USSR) 1962, v. 47, no. 12, p. 1858-1864; Meditsinskaya Promyshlennost' SSSR, 1963 [v. 17] no. 9, p. 8-15; Nauki i Tekhnika (Latvian SSR) 1963, no. 5, p. 28-31; Zdravookhranenie Tadzhikistana (USSR) 1963 [v. 10] no. 1, p. 3-9.

DESCRIPTORS: *Scientific organizations, *Medicine, Medical equipment, *Epidemiology, Public health, *Deserts, *Soils, *Plants (Botany), Biological laboratories, *Physiology, Pharmacology, *Botanical gardens.

Contents:
Twenty-five years of work of the All-Union Scientific Research Institute of Medical Instruments and Equipment, by Yu. F. K. Kabatov
Problems and prospects of development of a new institute, by K. I. Tyulenev
The main results of the activity of the Dushanbe Institute of Epidemiology and Hygiene in 30 years, by M. Ya. Rasulov
Kyzyl-Kumi desert station, by I. F. Momotov
Botanical garden of the All-Union Institute of Herbs and Aromatic Plants, by P. N. Kibal'chich
A visti to the institute of physiology imeni I. P. Pavlov, by I. Kurtsin.

EXPERIMENTAL MEDICINE AND MICROBIOLOGY, 1963, VOL. 15, NO. 1, P. 1-104. 1963, 1v 143refs PL-480 HEW
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Trans. of Medycyna Doswiadczalna i Mikrobiologia (Poland) 1963, v. 15, no. 1.

DESCRIPTORS: *Medicine, *Microorganisms, *Enzymes, *Staphylococcus, Poland, *Salmonella, Antigen-antibody reactions, Bacteria, *Rickettsia, *Brucellaceae, Serum, Infections, *Influenza virus, *Poliomyelitis virus, *Streptomyces, *Terramycin, *Chloromycetin, Sodium compounds, *Aminosalicylic acid, *Trichomonas.

Contents:
Studies on staphylococcal desoxyribonuclease. IV. Purification and some properties of staphylococcal DNA-ase, by H. Osowiecki and R. Pakula
Reactivity of mice upon immunization and infection with typhoid bacilli. II. Serologic reactions following application of live-, killed bacilli resp. their extracts, by F. Rabczynska and others
Studies on experimental S. typhimurium infection in mice, by R. Stempien
Electrophoretic, immunoelectrophoretic and chromatographic analysis of the soluble antigen of Rickettsia

prowazeki, by C. Frygin

Influence of time of growth on the antigenic properties and yield of Bordetella pertussis, by G. Turowski

The gamma-inhibitor of normal horse serum. II. The protective properties of the serum and its fractions against infection of mice and tissue cultures with the Singapore strain of influenza virus, by R. Rykowska and L. Sawicki

The guinea pig and white rat serum inhibitors as possible factor of natural resistance of these animals to infection with certain strains of influenza virus, by L. Sawicki and R. Rykowska

Intratypic serodifferentiation test (IST) of polio viruses in He-La cell monolayers (preliminary report) by Z. Larski

Respiration of streptomyces aureofaciens during submerged fermentation, by P. Wierzchowski and others

Separation and testing of biologically active substances from mixtures of chloramphenicol and oxytetracycline, by K. Obojska and D. Ostrowska

Chemotherapeutic and pharmacologic properties of sodium salts of M-aminosalicyclic acid, by A. Desperak-Naciazek and others

Serologic diagnosis of Trichomonas infection, by B. Hoffman and others.

FEDERATION PROCEEDINGS TRANSLATION SUPPLEMENT, VOL. 22, NO. 2, PT. II, P. T195-T384. Mar/Apr 63, 1v.
Order from FASEB $2.00, $10.00/year

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1962, v. 17, no. 6, p. ##67-[72]; no. 8, p. 56-[63]; Akademiya Nauk SSSR. Izvestiya. Seriya Biologicheskaya, 1962 [v. 27] no. 3, p. ##442-[448]; Akusherstvo i Ginekologiya (USSR) 1962 [v. 38] no. 1, p. 51-[54]; Arkhiv Anatomii, Gistologii i Embriologii (USSR) 1962, v. 42, no. 6, p. 78-[83]; Arkhiv Patologii (USSR) 1962, v. 24, no. 4, p. 50-[55]; no. 6, p. ##3-12, 47-[53], ##53-[60] 60-66, #Byulleten' Eksperimental'noi Biologii i Meditsiny (USSR) 1962, v. 53, no. 2, p. ##93-96; Moskovskoe Obshchestvo Ispytatelei Prirody. Byulleten'. Otdel Biologicheskii (USSR) 1962, v. [37](67) no. 1, p. 158-[159]; #Fiziologicheskii Zhurnal SSSR, 1962, v. 48, no. 6, p. 677-[699] 722-[741]; no. 7, p. 796ff; no. 8, p. 842ff; 907ff, 922ff, 967ff, 989ff, 994ff; Klinicheskaya Meditsina (USSR) 1962, v. 40, no. 5, p. 85-[91] 96-[101]; no. 6, p. 39-[42]; Terapevticheskii Arkhiv (USSR) 1962, v. 34, no. 2, p. 101-[105]; no. 3, p. 28-[35]; no. 7, p. 30-[34] 49-[53] 58-[65]; Tsitologiya (USSR) 1962, v. 4, no. 1, p. 27-[31]; no. 2, p. 128-[136] 193-[200] 214-[219] [[7-[230]; no. 3, p. 297ff; Vestnik Rentgenologii i Radiologii (USSR) 1962, v. 37, no. 1, p. ##63-[65]; Voprosy Meditsinskoi Khimii (USSR) 1962, v. 8, no. 3, p. ##256-[260] 279-[283] 289-[293]; Voprosy Pitaniya (USSR) 1962, v. 21, no. 2, p. 20-[26]; #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1962 [v. 33] no. 2, p. 56-[62]; Zhurnal Nevropatologii i Psikhiatrii (USSR) 1962, v. 62, no. 1, p. 59-[65].
##Other translations are available elsewhere.

DESCRIPTORS: *Biology, *Medicine, *Pathology, *Physiology, Blood circulation, *Brain, Obstruction (Physiology), *Cardiovascular system, *Adenosine phosphates, *Polonium, *Atherosclerosis, *Fibrin, Lipoproteins, *Tyrosine, Urine, *Parasympatholytic agents, *Oxidoreductases, *Liver, *Cholinesterase, Ovaries, Adrenal glands, Pituitary gland, *Spleen, *Nervous system, *Convulsive disorders, Pentothal sodium, Synergism, *Anesthetics, *Rhythm (Biology), *Salivary glands, Gastrointestinal system, Vagus nerve, Fats, *Radiation effects, *Cancer, *Chemotherapeutic agents, *Endocrine glands, Oxygen, *Cells (Biology), *Dibasol, *Mitosis, *Anomalies, *Cornea, Hemorrhage, *Aging (Physiology), Tuberculosis

Contents:

Compensation of cerebral circulation during temporary occlusion of the cranial superior vena cava, by G. I. Mchedlishvili and others

Reflex regulation of the vascular system, by V. V. Frol'kis

Theory of measurement of vascular resistance under the influence of control signals, by L. V. Nikitin and V. M. Khayutin

Hydrodynamic mechanisms of arterial pressure rise in hypertensive disease, by V. L. Karpman and others

Topography of skin temperature in endarteritis obliterans, by B. D. Morozov

Prolonged changes in coronary circulation and blood pressure after stimulation of various divisions of the hypothalamus, by A. V. Tonkikh and others

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Serum lipoproteins in patients with various circulatory distrubances, by A. A. Mittel'shtedt and others

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Shein effect induced by 3% ether, by Z. V. Volkova

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Diurnal rhythm of trace-element concentrations in cerebrospinal fluid, by E. V. Sabadash and V. R. Soroka

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SCIENTIFIC CONFERENCE OF THE INSTITUTE OF CYTOLOGY OF THE ACADEMY OF SCIENCES USSR (NO. 2). 14 Aug 63, 85p. JPRS: 20634.
Order from OTS $2.25 63-31525

Trans. of mono. Nauchnaya Konferentsiya Instituta Tsitologii AN SSSR (no. 2). Tezisy Dokladov, Leningrad, 1962, 88p.

DESCRIPTORS: *Cells (Biology), Biosynthesis, Autoradiography, Florescence, Quenching (Inhibition), *Plants (Botany), *Amoeba, *Nuclei (Biology), *Lymphatic system, Blood proteins, Erythrocytes, Nucleic acids, *Reticuloendothelial system, Connective tissues, *Cancer, *Muscles, Microscopy, *Escherichia, *Cysteinamines, *Adenosine phosphates, *Desoxyribonucleic acids, *Ticks, *Insects, *Pelecypoda, Radiation tolerance, *Paramecium, *Ribonuclease. *Microscopes, Calcium compounds, Ions, *Reptiles, *Globulins, *Space biology, *Microsomes, *Protozoa, Radiobiology, Luminescence, *Secretion, Neurology, Drugs, *Mollusca, *Wounds and injuries, *Cryogenics, *Dyes, Conferences, Scientific organizations.

Contents:

Toughening by heat or reactive increase in the resistance of plant cells to the action of high temperature, by V. Ya. Aleksandrov

The application of autoradiography to the study of the characteristics of RNA synthesis in tissue differentiation, by L. F. Andreeva and others

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The effect of the temperature factor on paramecium caudatum exposed to X-rays, by N. E. Kovaleva

The nature of the linkages between the components of the RNA-ase-DNA complex, by T. N. Kopylova-Sviridova

The use of micro-objectives as dark-field condensers, by N. V. Korolev and S. V. Levin

The effect of calcium ions on the contraction and action potential of the frog muscle fiber, by S. A. Krolenko and S. Ya. Tsifrinovich

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Antiradiation effect of low molecular substances, by V. P. Paribok and G. F. Krupnova

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Change in the enzymatic properties of aldolase when combined with desoxyribonucleic acid, by I. A. Khodosova

The problem of ultraviolet fluorescence of the paranuclear bodies of spermatids of some locusts, by N. A. Chernogryadskaya and M. S. Shudel'

Study of the adsorptive properties of nerve endings with the development of the pessimum in the nerve-muscle preparation, by E. A. Shapiro.

Chumak, M. G.
A STUDY OF THE MITOTIC CYCLE OF THE EPITHELIAL CELLS OF THE CORNEA IN MICE BY MEANS OF TRITIUM-TAGGED THYMIDINE.
6 Aug 63, 7p. 8 refs. JPRS: 20519.
Order from OTS $0.50 63-31467

Trans. of Akademiya Nauk SSSR. Doklady, 1963, v. 149, no. 4, p. 960-962.

DESCRIPTORS: *Mitosis, Cells (Biology), *Epithelium, *Tracer studies, Tritium, *Cornea, *Autoradiography, Tissues (Biology), Genetics, Labeled substances.

Kocherezhkin, V. G.
FOR THE FURTHER DEVELOPMENT OF BIOLOGICAL SCIENCE AND STRENGTHENING ITS CONNECTION WITH PRACTICE. 16 Sep 63, 11p. JPRS: 21098.
Order from OTS $0.50 63-31770

Trans. of Akademiya Nauk SSSR. Investiya. Seriya Biologicheskaya, 1963 [v. 28] no. 4, p. 613-620.

DESCRIPTORS: *Biology, Microorganisms, *Scientific research, Cells (Biology), Biochemistry, Agriculture, Radiobiology, Plants (Botany), Physiology.

Lyapunov, A. A. and Malenkov, A. G.
LOGICAL ANALYSIS OF THE STRUCTURE OF HEREDITARY INFORMATION. 13 Sep 63, 24p JPRS: 21088.
Order from OTS $0.75 63-31764

Trans. of #Problemy Kibernetiki (USSR) 1962, no. 8, p. 293-308.

DESCRIPTORS: Analysis, *Genetics, Morphology, Genes, Chromosomes, *Biochemical genetics.

Lyapunov, Boris V[aler'yanovich] and Nikolaev, Nikolai A[leksandrovich].
PRESENT AND FUTURE ASPECTS OF SPACE TRAVEL. 3 Sep 63, 209p. JPRS: 20892.
Order from OTS $3.50 63-31666

Trans. of mono. Skvoz Ternii k Zvezdam (Over Obstacles on the Stars) Moscow, 1962, p. 1-176.

DESCRIPTORS: *Space flight, *Space medicine, *Astronauts, *Space biology, *Space environmental conditions, Telemetering, Flight clothing, Astronomy.

Oparin, A. I. and Fesenkov, V. G.
LIFE IN THE UNIVERSE [AND] MARS AND ORGANIC LIFE. 11 Sep 63, 17p. JPRS: 21026.
Order from OTS $0.50 63-31730

Trans. of Priroda (USSR) 1963 [v. 52] no. 2, p. 14-26.

DESCRIPTORS: *Exobiology, *Evolution, *Plants (Botany), *Mars, Venus, *Planetary atmospheres, Polymers, Oxygen.

Yazdovskii, V. I.
MAN IN SPACE FLIGHT. [AND] TABLE OF CONTENTS 16 Aug 63, 17p. JPRS: 20673.
Order from OTS $0.50 63-31545

Trans. of mono. Nauka i Chelovechestvo (Science and Mankind) Moscow, 1962, p. 348-358, 408-410.

DESCRIPTORS: *Space flight, *Space environmental conditions, *Closed-cycle ecological systems, *Space medicine, Spacecraft cabins, Rockets.

A non-technical discussion of factors which man encounters during space flight includes the following topics: (1) extremely low barometric pressure, the lack of molecular oxygen needed for breathing, ionizing radiations (cosmic, ultraviolet, corpuscular) and meteoric hazards; (2) noise, vibration, acceleration, and weightlessness; and (3) the artificial atmosphere of the ship, the peculiarities of eating in flight, the regime of work and rest, isolation, the sharp reduction of irritants found on Earth, limitations on movement, emotional tension, and staying in protected surroundings which produce worsened hygienic conditions.

Anatomy and Physiology

SOVIET PHYSIOLOGIST VASILII VASIL'EVICH PARIN: BIOGRAPHIC SKETCH. 10 Sep 63, 3p. JPRS: 21010.
Order from OTS $0.50 63-31723

Trans. of #Fiziologicheskii Zhurnal SSSR, 1963, v. 49, no. 6, p. 778-779.

DESCRIPTORS: *Biographies, *Medical personnel, *Blood circulation, Heart, Physiology.

Bachmann, K. D.
ABOUT LIPOFUSCIN OF THE LIVER (Über das Lipofuscin der Leber). [1963] 7p ([figs.] refs omitted)
Order from SLA $1.10 63-20200

Trans. of [Virchow's] Arch[iv für] Path[ologische] Anat[omie] u[nd] Physiol[ogie und Klinische Medizin] (West Germany) 1953, v. 323, p. 133-142.

DESCRIPTORS: *Bile pigments, Organic pigments, *Aging (Physiology), Liver, *Liver function tests, Histological techniques.

In examining liver biopsies it was found that even though there is a certain increase of the lipofuscin (lf.) content in the liver in aging the liver of young persons may contain plenty and those of older persons none. An absence of lf. was found in diseases of the liver (Hepatitis, cirrhosis, fatty changes). Repeated liver biopsies show that lf. can rapidly diminish but also appear. Therefore it is not a "dead" waste product (wear-and-tear-pigment) but a substance closely connected with the function of the liver. (Author)

Bayot, D.
INHIBITION OF OVULATION. 12p. VD-804.
Order from OTS or ETC $0.80 63-26259

Trans. of unidentified article, n.p., n.d.

DESCRIPTORS: *Pregnancy, Inhibition.

Breslav, I. S., Zhironkin, A. G. and others.
GAS EXCHANGE DYNAMICS IN WHITE MICE EXPOSED TO HIGH PARTIAL PRESSURE OF OXYGEN. 23 Aug 63, 8p. 19 refs. JPRS: 20791.
Order from OTS $0.50 63-31611

Trans. of #Fiziologicheskii Zhurnal SSSR, 1963, v. 49, no. 5, p. 643-647.

DESCRIPTORS: Gases, *Oxygen consumption, *Hypoxia, *Barometric pressure, Oxygen, Mice, *Acclimatization, Gas diffusion.

In the initial period of maintenance in a nitrogen oxygen mixture containing 60 percent or 90 percent oxygen, the gas exchange in white mice is elevated; subsequently, the gas exchange ordinarily becomes established at a level slightly in excess of the normal period. After 36 hours or 5 days in 60 percent oxygen, as well as after 36 hours in 90 percent oxygen, transfer to ordinary atmospheric air causes a temperary reduction of gas exchange in white mice. After 36 hours under conditions of hyperoxia (60 percent to 90 percent), transfer to a hypoxic medium (9 percent oxygen) causes a a slow reduction in gas exchange in white mice; this low level of oxygen consumption is maintained in the animals for a certain time also after transfer to air of

ordinary composition. Abrupt changes in the partial pressure of oxygen in the surrounding medium both in the direction of increase as well as in the direction of decrease, cause marked and opposite changes in gas edchange in animals. (Author)

Chernigovskii, V. N. and Lange, K. A.
STUDY OF HUMAN AND ANIMAL PHYSIOLOGY. 18 Sep 63, 9p JPRS: 21133.
Order from OTS $0.50 63-31780

Trans. of Akademiya Nauk SSSR. Vestnik, 1963 [v. 33] no. 7, p. 33-39.

DESCRIPTORS: Man, Animals, *Physiology, Conferences.

Efimov, V., Kosilov, S. and others.
THE PHYSIOLOGY OF LABOR AND TECHNICAL PROGRESS. 12 Aug 63, 14p. JPRS: 20596.
Order from OTS $0.50 63-31505

Trans. from Meditsinskaya Gazeta (USSR) 1963 [v. 26] 14 May, p. 3.

DESCRIPTORS: *Labor, *Industrial medicine, Industrial psychology, Physiology.

Feigenberg, I. M.
PROBABILITY PROGNOSTICATION IN THE ACTIVITY OF THE BRAIN. 8 Aug 63, 12p. 27 refs. JPRS: 20550.
Order from OTS $0.50 63-31481

Trans. of #Voprosy Psikhologii (USSR) 1963 [v. 9] no. 2, p. 59-67.

DESCRIPTORS: *Brain, Behavior, Reflexes, Conditioned reflex, *Neurology, *Reactions (Psychology), Physiology, Control systems, Probability, Mathematical prediction.

The factual material accumulated today by neurophysiology fails to lend support to the conception that reflex act is performed by the linear reflex arc, a broken chain of neurons beginning in receptor and ending in effector. The orienting reaction is analysed to show the necessity of admitting that reflex act has a more complex structure. Particularly, it is necessary to recognize that the brain is capable of probability prognostication on the basis of past experience supplemented by comparison between the really available situation and the prognosticated one. This function of the brain is important not only in bringing forth orienting, conditioned and similar reactions, but also in certain forms of behavior as well as in emotional reactions. (Author)

Ferner, H. and Gansler, H.
ELECTRON MICROSCOPIC STUDIES OF THE SUBMANDIBULAR GLANDS AND PAROTIDS OF THE ADULT MAN (Elekronenmikroskopische Untersuchungen an der Glandula Submandibularis und Parotis des Menschen). [1963] [29p] (figs omitted) 21refs
Order from SLA $2.60 63-18915

Trans. of Zeitschrift für Zellforschung und Mikroskopische Anatomie (Germany) 1961, v. 55, no. 2, p. 148-178.

DESCRIPTORS: *Electron microscopy, *Salivary glands, Man, Tissues (Biology)

Filistovich, V. I.
PESSIMAL INHIBITION OF THE DEPRESSOR ACTIVITY OF THE SINOCAROTID APPARATUS. [1963] 18p (figs. omitted) 31refs
Order from OTS or SLA $1.60 63-18530

Trans. of Fiziologicheskii Zhurnal SSSR, 1956, v. 42, no. 6, p. 477-486.

DESCRIPTORS: Inhibition, Stimulation, Reflexes, *Carotid sinus, *Chemorecptors, Nerves, *Neuromuscular transmission, *Blood pressure

Data is presented on the reflex depressions of blood pressure produced by stimulating the sinocarotid nerve electrically (with stimuli varying in frequency and strength) as well as those evoked by adequate stimulation of the carotid sinus baroreceptors during a rise of intrasinus pressure. The afferent impulsation in the trunk of the sinocarotid nerve was also studied.

Galoyan, A. A.
THE PARTICIPATION OF THE HYPOTHALAMUS-HYPOPHYSIS SYSTEM IN THE INHIBITORY EFFECT OF CADMIUM IONS ON THE CONDITIONED REFLEX ACTIVITY OF RATS, REPT. 2 (Ob Uchastii Gipotalamus-Gipofiz v Ugnetayushchem Deistvii Ionov Kadmiya na Uslovnoreflektornuyu Deyatel'nost' Krys, Soobshchenie II) tr. by Wanda M. Feeley. Sep 61, 7p. (refs. omitted). PSC no. 60-1130.
Order from OTS or SLA $1.10 63-19719

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1960, v. 6, no. 1, p. 46-51.

DESCRIPTORS: *Pituitary hormones, Pituitary gland, *Thalamus, *Conditioned reflex, Inhibition, *Adrenocorticotropic hormone, Rats, *Cadium compounds, Ions, Neurology, Adrenol glands.

Cadmium chloride in the doses, extinguishing conditioned reflexes elaborated in rats, reduces the number of glycoproteins in the gonadotropic cells of adenohypophysis. The number of glycoproteins in some thyrotropic cells of adenohypophysis is reduced then. In the mechanism of extinction of conditioned reflexes elaborated under the effect of cadmium ions the functional change of individual cells of adenohypophysis is important; this is indicated by definite changes in the content of glycoproteins in the gonadotropic and thyrotropic cells as well as by reduced neurosecretion in hypothalamus and neurohypophysis. (Author)

Lüthy, Herbert.
ABSORPTION SPECTRO(PHOTO)METRY OF NON-MEDULLATED AND MEDULLATED NERVE FIBERS BOTH IN NATURAL AND POLARIZED ULTRAVIOLET LIGHT (Absorptionsspektrometrie Markloser und Markhaltiger Nervenfasern im Natürlichen und Polorisierten Ultravioletten Licht). [1963] [46p] (foreign text included) 42refs
Order from SLA $4.60 63-18865

Trans. of Pflüger's Archiv [für die Gesamte Physiologie des Menschen und der Tiere] (West Germany) 1951, v. 253, p. 477-502.

DESCRIPTORS: *Microspectrometers, *Nerves, Ultraviolet spectrophotometers, Absorption spectrum, *Ultraviolet radiation, Biochemistry

Described is a microscopic apparatus and equipment with the aid of which ultraviolet absorption spectra of individual nerve fibers in the range of 240 mμ to 365 mμ can be measured. The absorption at 280 mμ is attributed to the indole ring of the tryptophan, while that at 265 mμ to the pyrimidine ring. The range (band) shift from 248 to 253 mμ ties in with the functional state of the nerve fiber. During the stimulation of the medullated nerve fiber there is a slow increase of absorption at around 265 mμ which amounts to 3 - 5%. Under aerobic conditions the maximum absorption of medullated fibers decreases, while increasing under anerobic conditions. It is felt that this ties in with the molecular order. From the rather unexpected attitude of dichroism at 280 mμ and 265 mμ in the medullated fiber it is concluded that the medullary sheath structure of the pyrimidine and indole rings is orthogonal. In the non-medullated fiber nucleinic acids and albumin chains are parallel to one another. (Author)

Meier, R. and Schär, B.
PRODUCTION OF LEUKOCYTE-MIGRATION-PROMOTING SUBSTANCES BY GRAM-POSITIVE GERMS IN VITRO (Produktion von Leukocytenemigrationsfördernden Stoffen durch Grampositive Keime in Vitro). [1963] 4p
Order from SLA $1.10 63-16506

Trans. of Experientia (Switzerland) 1957, v. 13, 15 Dec p. 492-493.
Another trans. is available from SLA as 58-602.

DESCRIPTORS: *Leukocytes, *Culture media, Tissue extracts, *Streptococcus.

Streptococcus pyogenes hemolyticus grown in glucose broth can produce or liberate a heat-stable factor of high molecular weight which stimulates the migration of leukocytes in vitro only if certain animal organs are present. (Author)

Schmid, Albrecht.
REGULARITIES IN STRONTIUM METABOLISM IN THE SKELETON AND MECHANISM OF STRONTIUM INCORPORATED INTO THE BONE SYSTEM, tr. by Lydia Venters. Sep 62, 20p. 73 refs.
Order from OTS or SLA $1.60 AEC-tr-5418

Trans. of [Hoppe-Seyler's Zeitschrift fur] Physiologische Chemie (West Germany) 1961, v. 326, no. 5/6, p. 177ff.

DESCRIPTORS: *Strontium, *Metabolism, *Skeleton, *Bone, *Absorption (Biological), Calcium, Ion exchange.

The kinetics of strontium and calcium metabolism in rat skeleton after feeding strontium-containing food are reported. Changes in the exchangeable strontium and calcium fractions of the skeleton proceed inversely to each other and are exponential. The relationship and constants found indicate that the mechanism of strontium turnover in the skeleton is an ion exchange at the surface of the mineral bone substance. A portion (varying according to age) of the stored strontium is practically fixed in the skeleton. This process is apparently due to the hindrance of the exchange processes by the organic bone material. The results give no indication of an intracrystalline incorporation of strontium into the bone minerals. (Author)

Shek, M. P.
HYPERTHERMIA IN DOGS AND ITS DEPENDENCE ON AVAILABLE BODY WATER DURING MUSCULAR EXERCISE AT HIGH ENVIRONMENTAL TEMPERATURE. 21 Aug 63, 9p. 11 refs. JPRS: 20748.
Order from OTS $0.50 63-31589

Trans. of #Fiziologicheskii Zhurnal SSSR, 1963, v. 49, no. 5, p. 542-547.

DESCRIPTORS: *Hyperthermia, Dogs, *Body fluids, Water, *Exercise, Atmospheric temperature, *Body temperature.

A comparative evaluation is made of hyperthermia which develops under the isolated effect on dogs of high environmental temperature, muscular exercise and the combined effect of these factors in relation to the total body water of the animals.

Botany

Gonzalez, A. G. and Rodriguez, F. Diaz.
ALKALOIDS IN PLANTS OF THE CANARY ISLANDS. VII. NICOTIANA GALAUCA AND NICOTIANA PANICULATA. [1963] 14p. 9 refs.
Order from SLA $1.60 63-18429

Trans. of Soc[iedad] Espan̈[ola de] Fisica y] Quim[ica]. An[ales] 1962, v. 58B, p. 431-436.

DESCRIPTORS: *Alkaloids, Plants (Botany), *Tobacco.

Lo, Shih-wei.
THE STATUS AND PROSPECTS FOR RESEARCH IN PLANT TISSUE CULTURE. 9 Sep 63, 14p. 60 refs. JPRS: 20975.
Order from OTS $0.50 63-31705

Trans. of K'o Hsüeh T'ung Pao (Chinese People's Republic) 1963, no. 1, p. 21-27.

DESCRIPTORS: Scientific research, *Plants (Botany), *Tissue culture.

Salageanu, N.
STUDIES WITH C^{14} ON THE MECHANISM OF PHOTOSYNTHESIS. 10 Apr 63, 16p. JPRS: 18638.
Order from OTS $0.50 63-21555

Trans. of Natura. Seria Biologie (Rumania) 1962, v. 14, no. 4, p. 3-13.

DESCRIPTORS: *Tracer studies, *Photosynthesis, Carbon, Radio-active isotopes, Plants (Botany), Biochemistry.

Medical Specialties and Equipment

QUESTIONS OF EXAMINATIONS IN LEGAL MEDICINE: TABLE OF CONTENTS. [1962] 6p [RSTP]-6935.
Order from OTS or SLA $1.10 62-24764

Partial trans. (table of contents) of Russian mono. Voprosy Sudebno-Meditsinskoi Ekspertizy, n. p., n. d.

DESCRIPTORS: Medicine, *Criminology, *Medical examination, *Wounds and injuries

Babskii, E. B.
ELECTRONICS AND MEDICINE. 6 Sep 63, 53p. 15 refs. JPRS: 20968.
Order from OTS $1.50 63-31701

Trans. of introduction to mono. Elektronika dlya Biologov i Medikov (Electronics for Biologists and Medical Personnel) Moscow/Leningrad, 1962, p. 9-70 (mono. originally pub. as Biological and Medical Electronics, by Ralph W. Stacey, n. p., n. d.).

DESCRIPTORS: *Bioelectronics, *Medicine, *Medical equipment, *Television cameras, *Radio transmitters, *Data processing systems, *Cybernetics, Electroencephalography, Physiology, Electronics, Telemetering.

Topics include: Electrometry and electrography; the use of electronics for electrophysiological research; measurement of nonelectrical magnitudes by electrical methods in physiological investigations; television technic in medicine; endoradiosondes (radio transmitting capsules); recording of physiological processes at a distance; electronic methods of analysis and processing of information; electronics and methods of acting on the body; and electronic modeling of physiological processes and electronic control.

Björk, V. O.
THE USE OF THE RESPIRATOR TO TAKE OVER RESPIRATORY WORK IN CASES WITH VENTILATORY INSUFFICIENCY. 24p. Tuberc. VII-2.
Order from OTS or ETC $0.92 63-26257

Trans. of unidentified Swedish language article, n. p., n. d.

DESCRIPTORS: Lungs, Blood, Exchange reactions, Gases, Respiration, *Respirators.

Breitman, R. Sh.
THE RESULTS OF TWO-YEAR EMPLOYMENT OF POLYCHLORVINYL FILMS FOR THE TREATMENT OF WOUNDS AND BURNS. 24 Sep 63, 3p. JPRS: 21204.
Order from OTS $0.50 63-31817

Trans. of Sovetskaya Meditsina (USSR) 1963 [v. 27] no. 6, p. 136-138.

DESCRIPTORS: *Polyvinyl chloride, Films, *Surgical dressings, *Burns, Polyethylene plastics, Healing, Surgical supplies.

Thin films of polyethyline or polychlorvinyl of a thickness of 25-50 microns can be utilized as dressings for wounds and burns. Polychlorvinyl and polyethyline thin films affect the microflora of the bacteria count. Polychlorvinyl films act on the wound as an analgesic, protecting it from drying and recurrent infection. Dressing Dressings of polychlorvinyl film shorten the average duration of disability in 20% of the burned patients and in 10-20% of the wounded patients. The possibility of visual observation of the vulnerary process through the transparent films permits lessening the number of dressings. (Author)

Doroshchuk, V. P.
IMPROVING MODERN APPARATUSES FOR PROLONGED ARTIFICIAL RESPIRATION. 15 Aug 63, 11p. 10 refs. JPRS: 20662.
Order from OTS $0.50 63-31541

Trans. of Vestnik Khirurgii (USSR) 1963, v. 90, no. 3, p. 81-87.

DESCRIPTORS: Medical equipment, *Respirators, Mechanical organs. Artificial respiration.

Evdokimov, S. A., Isaakyan, L. A., and Maslennikova, L. S.
AN ELECTROMETRIC METHOD OF DETERMINING THE OXYGEN CONTENT OF EXPIRED AIR IN SMALL ANIMALS. 19 Sep 63, 6p 7refs JPRS: 21144.
Order from OTS $0.50 63-31789

Trans. of #Fiziologicheskii Zhurnal SSSR, 1963, v. 49, no. 6, p. 767-770.

DESCRIPTORS: *Medical equipment, Electrometers, *Measuring devices (Electrical and electronic), *Oxygen consumption, Animals.

Hertz, C. H. and Edler, I.
THE RECORDING OF THE MOVEMENTS OF THE HEART WALLS USING THE ULTRASONIC IMPULSE METHOD (Die Registrierung von Herzwandbewegungen mit Hilfe des Ultraschall-Impulsverfahrens). [1962] [14]p (foreign text included) 12refs
Order from SLA $1.60 62-18334

Trans. of Acustica (Switzerland) 1956, v. 6, p. 1-4.

DESCRIPTORS: *Medical equipment, Motion, *Heart, *Ultrasonic equipment, Medical examination.

Using the ultrasonic reflectoscope the position of the heart walls in the human body can be located by placing the quartz crystal of the ultrasonic reflectoscope on the chest of the patient in such a way that the sound passes between the ribs and falls upon the heart region to be investigated. Further, with the help of a special camera, it is possible by this method to record the movements of the heart walls continuously. The curves thus obtained permit an exact diagnosis of certain cardiac diseases which hitherto were hard to distinquish. Examples of such curves are given. (Author)

Microbiology

Anan'in, V. V. and Kiktenko, V. S.
MATERIALS FOR THE CLASSIFICATION OF PATHOGENIC LEPTOSPIRA IN THE USSR (Materialy k Klassifikatsii Patogennykh Leptospir v SSSR).
6 June 63, 11p. 38 refs. Trans. V-1832.
Order from OTS or SLA $1.60 63-23120

Trans. of Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1963, v. 40, no. 1, p. 28-32.

DESCRIPTORS: *Spirochetes, Classification, Taxonomy, *Antigens-antibody reactions.

It is possible to divide leptospira into species on the basis of differences in their antigenic structure, immunogenic characteristics and pathogenicity, taking into consideration the clinical manifestations, epidemiological and epizootiological peculiarities of the specific leptospirosis. Classification, suggested as a temporary working scheme, includes 12 species of pathogenic leptospira brought to light on the territory of the Soviet Union. (Author)

[Chen, Chih-tsung, Chen, Lin-tsung, and Tu, Tsung-ming].
[STUDIES ON THE GLUTAMIC ACID FERMENTATION]. VI BACTERIOLOGICAL NATURE OF BACTERIA NO. 1942. [1963] 3p (tables omitted) 2 refs
Order from SLA $1.10 63-16194

Trans. of [Hakko Kogaku Zasshi (Japan) 1959, v. 37, no. 8, p. 310-311].

DESCRIPTORS: *Glutamic acid, *Fermentation, Morphology, *Toxonomy, Bacteria, *Micrococcus, Biosynthesis.

From the result of the test concerning the bacteriological nature, it is considered that bacteria No. 1942, belongs to micrococcus glutamicus. (See also 63-16193) (Author)

Dolgopol'skaya, M. A., Shapiro, A. Z., and Gorbenko, Yu. A.
DESTRUCTION OF THE FILM-FORMING BASE OF ANTIFOULING PAINTS BY MARINE MICROORGANISMS
26 Aug 63, 8p. 9 refs. JPRS: 20797.
Order from OTS $0.50 63-31616

Trans. of [Akademiya Nauk SSSR]. Sevastopol'skaya Biologicheskaya Stantsiya. Trudy, 1961, v. 14, p. 303-308.

DESCRIPTORS: *Antifouling coatings, *Marine biology, *Microorganisms, Sea water, Films, Degradation, Vinyl plastics, Plastics, Synthetic rubber, Petroleum.

The lacquers investigated were: the copolymer vinylchloride-vinylacetate (nonsapronified), the copolymer vinylchloride-vinylacetate (saponified), polyisobulylene, perchlorovinyl resin, alkyd resin, nitrile rubber, and petrolatum. The studies were based on the principle of counting the number of microorganizms developing in ocean water in the presence of lacquer films, based on the fact that the films can be used to some extent as food by the ocean water microorganizms therefore their number must rise compared to the control sample. Glass slides coated with a laquer layer were immersed in flasks of ocean water at a temperature of 20-21°C. After 3, 5, 10, 15, 20, 25, and 30 day exposure, inoculations were made on to slides from each vessel using SPA (Tryptic hydrolysate of fish flour (60%) and agar-agar (40%).), the number of colonies growing on the agar was counted in four days. A method of direct count of the number of bacteria settling on the lacquer films was used as a check. Both methods led to the same result, although absolute values of bacteria counted in both cases did not coincide. The substances tested as ingredients of anti-fouling paint bases are subject to destruction by marine bacteria and used by them to some extent as nutrients promoting their life-activity.

Krasnovskii, A. A., Erokhin, Yu. E., and Khun, Yui-tsyun'.
FLUORESCENCE OF AGGREGATED FORMS OF BACTERIOCHLOROPHYLL, BACTERIOVIRIDIN, AND CHLOROPHYLL IN CONNECTION WITH THE STATE OF THE PIGMENTS IN PHOTOSYNTHESIZING ORGANISMS. [1963] 4p. 8 refs.
Order from OTS or SLA $1.10 63-16725

Trans. of Akad[emiya Nauk SSSR. Doklady, 1962, v. 143 [no. 2] p. 456-459.

DESCRIPTORS: *Fluorescence, *Bacteria, *Organic pigments, Chlorophylls, *Photosynthesis.

Licheva, S. I.
CONGRESS OF THE ALL-UNION MICROBIOLOGICAL SOCIETY (NO. 2) [MOSCOW, MAR 63]. 13 Aug 63, 4p. JPRS: 20613.
Order from OTS $0.50 63-31514

Trans. of Akademiya Nauk SSSR. Vestnik, 1963 [v. 33] no. 6, p. 119-121.

DESCRIPTORS: *Conferences, Scientific organizations *Microorganisms.

Mikhailov, I. F.
CRITERIA OF THE SPECIFIC BRIGHTNESS OF BACTERIA STAINED WITH FLUORESCENT ANTIBODIES. 21 Aug 63, 7p. 8 refs. JPRS: 20747.
Order from OTS $0.50 63-31588

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1963, no. 7, p. 94-97.

DESCRIPTORS: *Bacteria, *Fluorescence, *Antibodies, Brightness, Staining.

Criteria for the specific brightness of bacteria stained with fluorescent homologous sera are their characteristic marginal brightness which is determined by the form of the microbial cell, the properties of the membrane and the surface disposition of the layer of fluorescent antibodies. The intensity of this brightness has a relative significance. A uniform brightness of of varying intensity of bacteria which have a membrane is determined by nonspecific factors -- autofluorescence or secondary fluorescence as a result of diffuse staining of the microbial cell with fluorochrome. Mottled brightness of bacteria is determined by the specific staining of local antigens and indicates an antigenic community with bacteria against which the fluorescent serum was prepared. (Author)

Mikhailov, I. F., Kulikova, E. N. and others.
STAINING ISOLATED BACTERIAL STRUCTURES WITH FLUORESCENT ANTIBODIES [AND] THE USE OF ACCELERATED METHODS OF LABORATORY DIAGNOSIS OF DYSENTERY (PHAGE TITER INCREASE REACTION AND THE METHOD OF FLUORESCENT ANTIBODIES). 13 Aug 63, 11p. 8 refs. JPRS: 20618.
Order from OTS $0.50 63-31517

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1963, v. 34, no. 6, p. 74-78, 131.

DESCRIPTORS: Fluorescent dyes, Bacteria, *Cells (Biology), *Antigens and antibodies, *Diagnosis, *Shigella infections, *Bacteriophages, *Fluorescence, Diagnostic agents, *Biological stains.

Shaposhnikov, V. N.
BIOLOGICAL OXIDATION IN MICROBIOLOGY. 9 Aug 63, 28p 25refs. JPRS: 20575; NASA N63-19753.
Order from OTS $0.75 63-31493

Trans. of Akademiya Nauk SSSR. Izvestiya. [Seriya Biologicheskaya] 1963 [v. 28] no. 3, p. 348-365.

DESCRIPTORS: *Oxidation, *Respiration, Fermentation, Tissues (Biology), Cells (Biology), *Microorganisms.

Smalii, V. T.
CONFERENCE ABOUT BACTERIAL FERTILIZERS. [1963] 5p.
Order from OTS or SLA $1.10 63-16127

Trans. of Mikrobiologiya (USSR) 1952, v. 21 [no. 3] p. 387-388.

DESCRIPTORS: *Fertilizers, *Bacteria, *Conferences, Azotobacter, Soils.

Papers were presented on the following topics: microbiological processes in the soil and ways to manage them, manufacture of bacterial fertilizers and their applications on a large scale, nitrogen and phosphobacterin, regional distribution of the fertilizers, selection of the bacterial strains of N-fixating bacteria, azotobacter and azotobacterin, nodule bacteria, the application of bio-preparations to the more important technical cultures (sugar beets, hemp, and hops), and the influence of bacterial fertilizers upon yield and upon diseased plants.

Sorokin, Yu. I.
ON THE TRUE NATURE OF A NEW CLASS OF KRASSILNIKOVIAE (KRISS) MICROORGANISMS. 21 Aug 63, 17p. 8 refs. JPRS: 20760.
Order from OTS $0.50 63-31597

Trans. of #Mikrobiologiya (USSR) 1963, v. 32, no. 3, p. 425-433.

DESCRIPTORS: *Microorganisms, Marine biology, Taxonomy, Morphology, Growth, *Histological techniques.

The filiform-cluster structures discovered by Kriss and his coworkers using growth slides immersed in seas and oceans and described by them as being a new class of Krassilnikoviae microorganisms are elements of invertebrate organs destroyed by the moving slide and have nothing in common with microorganisms. These elements have been identified as being colloblasts of Ctenophora tentacles. Proof is presented to the effect that the data of Kriss et al concerning the qualitative composition and rate of reproduction of marine microflora, obtained by them using exposed growth slides must be considered unreliable. A new device for exposure of growth slides under water and providing immersion and lifting of the slides in a closed container is described. (Author)

Zikov, M. P. and Bakinova, L. B.
EXPERIENCE IN USING TELEVISION MICROSCOPY FOR THE DEMONSTRATION OF MICROORGANISMS. 13 Aug 63, 7p. JPRS: 20619.
Order from OTS $0.50 63-31518

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1963, v. 34, no. 6, p. 54-58.

DESCRIPTORS: *Television cameras, *Microscopy, *Microorganisms, Education, *Microphotography.

Neurology and Psychiatry

NERVOUS SYSTEM CYBERNETICS: SOVIET STUDIES 13 Aug 63, 42p. 23 refs. JPRS: 20629.
Order from OTS $1.25 63-31522

Trans. of Nervnaya Sistema (USSR) 1962, no. 3, p. 177-194.

DESCRIPTORS: *Nervous system, *Cybernetics, Brain, *Mathematical models, *Game theory, Simulation, *Programming (Computers), Physiology.

Contents:
An electronic model of a game by V. A. Ganzen
The significance of dynamic programming and game theory for physiology, by P. I. Gulyaev.

Chernigovskii, V. N.
INVESTIGATION OF THE RECEPTORS OF CERTAIN INTERNAL ORGANS: INTEROCEPTIVE REFLEXES IN DECEREBRATED ANIMALS. [1963] 7p (figs omitted) 4refs
Order from OTS or SLA $1.10 63-18531

Trans. of Farmakologiya i Toksikologiya (USSR) 1944, v. 7, no. 2, p. 41-46.

DESCRIPTORS: Nerves, Stimulation, Brain, *Reflexes, Spinal cord, Excision, Thalamus, *Neuromuscular transmission, *Blood pressure, *Respiration, Motor reactions, Sensory mechanisms, *Chemorecptors

A harmonious reflex response of respiration and blood pressure to interoceptive stimulation requires the completeness and the linking of at least four portions of the central nervous system: the spinal cord, the medulla oblongata, the brain stem and the thalamus opticus. With decerebration performed at a level which preserves the connections with the lower-lying sections of the central nervous system, the respiration and blood circulation react to stimulation of interoceptors in basically the same way as in an animal with an unimpaired nervous system. Transections which separate the thalamus opticus from the lower sections of the central nervous system sharply lower the reflex response of respiration and enhance the reflex response of blood circulation. The weakening of the reflex response of respiration to interoceptive stimulation is considered as disturbance of irradiation from the thalamic centers to the respiratory center of the medulla oblongata. The enhancement of the reflex response of the blood circulation is considered as a consequence of a general rise of tonus accompanying decerebration and the suspension of the hyperventilation which, before decerebration, usually develops during respiratory excitement. (Author)

Klebanova, E. V. and Leibson, L. G.
ELECTRIC EXCITIBILITY OF THE CEREBRAL CORTEX IN NEWBORN ANIMALS. [1963] [13p] 15refs
Order from OTS or SLA $1.60 63-16811

Trans. of [Fiziologicheskii Zhurnal SSSR, 1938] v. 25, no. 4, p. 418-425.

DESCRIPTORS: *Electroencephalography, *Animals, *Motor reactions, *Cerebral cortex.

Logvin, M. A.
THE PROBLEM OF CONSCIOUSNESS AND THE BRAIN (Problema Soznanie i Mozg). 19 Jul 63, 54p. 14 refs. JPRS: 20270.
Order from OTS $1.50 63-31339

Trans. of [Novoe v Zhizne, Nauke, Tekhnike. Seriya 2: Filosofiya] (USSR) 1963 [no. 9] 48p.

DESCRIPTORS: *Brain, *Nervous system, Conditioned reflex, Reasoning, Analyzers (Psychology), Emotions, Behavior.

Myasishchev, V. N. and Tonkonogii, I. M.
CONFERENCE ON RESEARCH METHODS IN THE PATHOPHYSIOLOGY OF HIGHER NERVOUS ACTIVITY OF MAN AND MEDICAL PSYCHOLOGY. 8 Aug 63, 8p. JPRS: 20543; NASA N63-19802.
Order from OTS $0.50 63-31478

Trans. of #Voprosy Psikhologii (USSR) 1963 [v. 9] no. 3, p. 176-180.

DESCRIPTORS: *Conferences, *Medical research, Pathology, Physiology, Medicine, *Nervous system, Brain, Neurology, Psychology.

The October 1962 conference, held in the Scientific Research Psychoneurological Institute imeni V. M. Bekhterev, considered the following problems: (1) research methods in the pathophysiology of higher nervous activity of man: (2) medical psychology and pathophysiology of higher nervous activity of man; and (3) status of research in the field of the pathophysiology of higher nervous activity of man and medical physiology in establishments of the Ministry of Public Health RSFSR. Brief summaries are given of the papers presented.

Vartanyan, M. E.
BROADENING BIOLOGICAL RESEARCH IN PSYCHIATRY. 29 July 63, 13p. JPRS: 20369.
Order from OTS $0.50 63-31389

Trans. of Zhurnal Nevropatologii i Psikhiatrii (USSR) 1963, v. 63, no. 6, p. 804-813.

DESCRIPTORS: Medical research, Psychiatry, Biology; *Mental disorders.

Vertgeim, I. A.
EXPERIENCE IN THE TREATMENT OF NEUROSES IN MILITARY UNITS (Opyt Lecheniya Nevrozov v Voinskoi Chasti) tr. by Wanda M. Feeley. Mar 62, 5p. PSC no. 60-2771.
Order from OTS or SLA $1.10 63-19703

Trans. of Voenno-Meditsinskii Zhurnal (USSR) 1960, no. 4, p. 51-54.
Another trans. is available from OTS $4.50 in 60-41160, JPRS-5284, 23 Aug 60, 297p.

DESCRIPTORS: Therapy, *Neuroses, Military personnel, *Military medicine, Psychotropic agents, Drugs.

HERALD OF THE ACADEMY OF MEDICAL SCIENCES USSR, 1963, VOL. 18, NO. 5. 12 Aug 63, 129p. JPRS: 20590.
Order from OTS $2.75 63-31501

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik Vestnik, 1963, v. 18, no. 5, p. 1-96.

DESCRIPTORS: *Medical research, *Medicine, *Viruses, Classification, *Immunity, *Diseases, Therapy, *Genetics, *Nucleic acids, Synthesis, *Cells (Biology), *Antibiotics, *Influenza viruses, Etiology, *Respiratory system, Epidemiology, *Vaccines

Contents:
Opening address of N. N. Blokhin, President of the Academy of Medical Sciences USSR
The role of viruses in human pathology, by L. A. Zil'ber
The nature of viruses and their place in the system of living, by Sh. D. Moshkovskii
Classification and nomenclature of viruses, by S. Ya. Gaidamovich
General principles and characteristics of anti-virus immunity, by V. D. Solov'ev
The problem of specific prophylaxis of the most important virus diseases (with discussion) by O. V. Baroyan
Virus genetics, by V. D. Timakov and D. M. Gol'dfarb
Possible lines of chemical evolution of viruses and nucleic acids, by T. I. Tikhonenko
Study of intracellular synthesis of virus components, by V. M. Zhdanov and others
The mechanism of the selective effect of some influenza-virus-suppressing antibiotics on nucleic acid synthesis in the cell, by G. F. Gauze
Current data on the etiology of acute respiratory diseases, by R. S. Dreizin
Current data on the etiology and epidemiology of influenza, by N. N. Orlova
Results and prospects for the utilization of living vaccines against influenza and influenza-like-infectious diseases, by A. N. Smorodintsev and O. M. Chalkina
Experience in the study of the clinical aspects of influenza and other acute respiratory diseases (with discussion) by N. I. Morozkin and others

HEARALD OF THE ACADEMY OF MEDICAL SCIENCES USSR, 1963, VOL. 18, NO. 6 Session of the General Conference of the Academy of the General Conference of the Academy of Medical Sciences USSR (no. 17) Leningrad, 4-9 Feb 63. 27 Aug 63, 135p. 56 refs. JPRS: 20826.
Order from OTS $2.75 63-31634

Trans. of Akademiya Meditsinskikh Nauk SSSR. Vestnik, 1963, v. 18, no. 6, p. 1-88.

DESCRIPTORS: *Medical research, *Medicine *Immunity, *Poliomyelitis, Vaccines, Toxicity, *Encephalitis, Pesticides, *Amyotrophic lateral sclerosis, *Hepatitis, Etiology, *Epidemiology, *Liver viruses.

Contents:
Results of mass immunization with living poliomyelitis vaccine and the prospects of eliminating this disease, by M. P. Chumakov and others
Poliomyelitis-like paralytic disease in children inoculated with living sabin vaccine, by E. N. Bartoshevich and others
Elimination of the natural foci of tick-borne encephalitis by means of acaricides, by N. N. Gorchakovskaya
Study of the etiology of amyotrophic lateral sclerosis, by L. A. Zil'ber and others
Discussion, by A. I. Danilov and others
Problems of current importance in the clinic of epidemic hepatitis, by E. M. Tareev and others
Some results of study of viruses isolated from patients with epidemic hepatitis, by A. K. Shubladze and others
Problems of current importance in the epidemiology and prophylaxis of Botkin's disease, by E. A. Paktoris
Discussion, by A. I. Danilov and others
Scientific organization part of the session
Current events.

Aleksandrov, N. I., Gefen, N. E., and others.
IMPROVEMENT OF THE CULTURE MEDIUM AND SEARCH FOR A METHOD OF PURIFYING THE PROTECTIVE ANTHRAX ANTIGEN (Usovershenstvovanie Pitatel'noi Sredy i Izyskanie Metoda Ochistki Zashchitnogo Sibireyazvennogo Antigena). 1 July 63, 10p. 2 refs. Trans. V-1833.
Order from OTS or SLA $1.10 63-23122

Trans. of Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1963, v. 40, no. 1, p. 103-107.

DESCRIPTORS: *Culture media, Purification, *Antigens and antibodies, Vaccines, *Anthrax vaccine.

The chemical adsorbed anthrax vaccine possesses low toxicity and expressed immunogenic characteristics. A milk-peptone culture medium has been suggested for the cultivation of the anthrax microbe for the purpose of accumulation of extracellular protective antigen. From among the tested methods of purification and concentration of the protective anthrax antigen (acid, alcohol and salting out) a method of precipitation by alcohol, at a 40% concentration, is recommended with a following sorption of the precipitated antigen with aluminum hydroxide. (Author)

Aleshina, E. I. and Puchkova, T. I.
FIBRINOLYTIC PROPERTIES OF THE TULAREMIA PATHOGEN. 26 Feb 63 [7]p. 11 refs. ABL Trans. no. 744; JPRS: R-3013-D; AD-404 791.
Order from OTS or SLA $1.10 63-23088

Trans. of [Gosudarstvennyi Meditsinskii Institut, Rostov-on-the-Don. Sbornik Nauchnykh Trudov] (USSR) 1947, no. 6, p. 96-102.

DESCRIPTORS: Fibrin, *Pasteurella, *Plasmin, *Antigens and antibodies, Infections.

When the tularemia pathogen is cultured on a liquid yolk medium it secretes a lytic agent which dissolves plasma

fibrin of man and laboratory animals. Fibrinolysins of the tularemia pathogen have a specific action: they have a lytic effect on the fibrin of the species of animal from which they have been recovered. There is a specific relationship between the virulence of the tularemia pathogen and its fibrinolytic activity. Highly virulent strains are capable of secreting a lytic agent which dissolves fibrin. Weakened and attenuated strains lose their capacity to produce fibrinolysins along with their loss of virulence. The lytic agent secreted by the tularemia pathogen only acts on the fibrin of a susceptible animal, producing lysis of a clot and not touching the fibrin in the plasma of a nonsusceptible animal. (Author)

Anan'ev, V. A., Kaverin, N. V., and others.
PROPERTIES OF A VIRUS ISOLATED FROM THE FECES OF A PATIENT WITH INFECTIOUS HEPATITIS (STRAIN K3) (Svoistva Virusa, Vydelennogo iz Fekalii Bol'nogo Epidemicheskim Gepatitom (Shtamm K3)) tr. by Z. D. Knowles. 12 June 63, 8p. 4 refs. NIH no. 6-21-63.
Order from OTS or SLA $1.10 63-23128

Trans. of #Voprosy Virusologii (USSR) 1963 [v. 8] no. 2, p. 217-221.

DESCRIPTORS: *Hepatitis virus, Hepatitis, Taxonomy, *Metabolic products, Etiology.

From feces of a patient with epidemic hepatitis a virus was isolated with the following distinctive features: a high affinity for the human kidney tissue culture and absence of pathogenicitv for the monkey kidney tissue culture; a poor effect on most continuous cell lines of human origin; absence of neutralization by diagnostic antisera against the known enteroviruses. As the virus is neutralized by sera of epidemic hepatitis convalescents it may play a role in the etiology of epidemic hepatitis. (Author)

Constantinesco, N., Thornet, Th., Birzu, N., Zavate, O., and Pencea, I.
ROLE OF KILLED TUBERCLE BACILLI IN THE PATHOGENESIS OF SO-CALLED "ALLERGIC" ENCEPHALOMYELITIS INDUCED BY BRAIN EXTRACT PLUS FREUND'S ADJUVANTS (Role des Bacilles Tuberculeux Tues dans la Pathogenie de l'Encepalomyelite dite Allergique, Provoquee par de l'Extrait Cerebral Additionne avec des Adjuvants de Freund). [1963] 6p 18refs
Order from SLA $1.10 63-18508

Trans. of Institut Pasteur [Paris]. Annales (France) 1959, v. 96, p. 79-92.

DESCRIPTORS: *Mycobacterium tuberculosis, *Allergy, *Encephalitis, Etiology, Brain, Tissue extracts.

Brain matter from the encephalitogenic complex CLOB (C, brain; L, lanoline; O, paraffin; B, t.b.) plays a favoring but no means indispensaable part in the pathogenesis of experimental demyelinating "allergic" encephalomyelitis. Only the LOB fractions seems to be absolutely necessary, whereas the CB and CLO fractions alone never proved pathogenic. Inflammatory tuberculous processes are induced in all organs and even in the meninges by means of the dissemination of mineral oil and lanoline drops, carrying killed t.b. Following the destruction of the blood-brain barrier due to this meningitis, the whole C.N.S. (white and gray matter of the brain and spinal cord) presents vascular, inflammatory demyelinating and neuronal alterations, which characterize the experimental demyelinating encephalomyelitis, quite comparable to Levaditi's polioneuraxitis. The experiments do not support the hypothesis following which this encephalomyelitis would have an allergic origin. It is true that certain arguments suggest the allergic nature of this encephalomyelitis (induced either by infection, or antirabic vaccination, experimental injection of brain matter + Freund's adjuvant), but in spite of these facts, the problem of the pathogenesis of this nervous syndrome is not yet solved. (Author)

Dahl, Matti.
A SOURCE OF ERROR IN THE USE OF THE CLINISTIX METHOD. [1963] 3p 1ref
Order from SLA $1.10 63-20004

Trans. of Suom[en] Lääk[ärilehti] (Finland) 1958, v. 13, p. 545-547.

DESCRIPTORS: *Diagnostic agents, Diabetes, *Urine, *Glucose, Errors, Urinalysis, Colorimetric analysis

Patients often submit urine samples in carelessly washed containers. Residual detergents in the container may cause clinistix paper to turn blue in the absence of urinary glucose. A survey was made of detergents available in Finland to determine which of these cause the color reaction. It was found that all detergents giving the reaction contain an oxidizing agent used for bleaching, and that this agent substitutes for the hydrogen peroxide released by the gluconic acid reaction.

Domaradskii, I. V., Vasil'eva, Z. I., and Aparin, G. P.
ON THE ANTIFERMENTATIVE ACTION OF ANTIPLAGUE SERA. 13 May 63 [10]p. 3 refs. ABL Trans. no. 801; JPRS: R-3096-D.
Order from OTS or SLA $1.10 63-23063

Trans. of Irkutskii Gosudarstvennyi Nauchno-Issledovatel'skii Protivochumnyi Institut Sibiri i Dal'nego Vostoka. Izvestiya (USSR) 1959, v. 21, p. 122-127.

DESCRIPTORS: *Fermentation, Inhibition, *Plague, *Vaccines, Catalase, *Antigens and antibodies.

Single implantation on media with normal and immune horse sera does not reflect in the activity of the catalase and phosphatase of plague bacillus. Extensive cultivation of avirulent strains of plague bacillus in the presence of sera lowers the activity of only one enzyme, catalase; the activity of the catalase of virulent strains remains unchanged under these conditions. The influence of the sera on the activity of catalase of avirulent strains of plague bacilli is nonspecific, and is not connected with the presence of therapeutic and preventive substances in them. Immune and normal sera do not have an antienzyme effect in relation to catalase and phosphatase of washed cells of plague bacillus cultured on media lacking serum. (Author)

Faibich, M. M., Nepogodin, N. F. and Korneev, A. A.
IMMUNOGENIC PROPERTIES OF SOME FRACTIONS OF CAUSATIVE AGENTS OF PLAGUE. 21 Aug 63, 7p. 14 refs. JPRS: 20740.
Order from OTS $0.50 63-31586

Trans. of #Byulleten' Eksperimental'noi Biologii i Meditsiny (USSR) 1963, v. 55, no. 1, p. 77-80.

DESCRIPTORS: *Immunity, *Plague, Vaccines, Nucleic acids, *Microsomes, Antigens and antibodies, *Antigen-antibody reactions.

It was established that nucleic acids (NA) of P. pestis possessed a specific property of stimulating the immunity in guinea pigs and monkeys in its conjoint administration with the live EB strain vaccine. Conjoint immunization with the live vaccine and NA protected the animals against experimental bubonic (guinea pigs) and pulmonary plague (monkeys). NA of P. pestis causes no marked immunity in the animals without the live vaccine Nucleoproteid (NP) and fraction I of P. pestis, as well as killed microbes of the EB strain, sodium nucleoproteide and NA of Br. melitensis, administered together with the live vaccine caused no stimulating effect on the formation of plague immunity in guinea pigs. Fraction I and NA of P. pestis, as well as sodium nucleoproteide obtained from yeast in doses and ratios to the live vaccine depressed the development of immunity to this infection in guinea pigs. (Author)

Grinberg, G. D.
EPIDEMIOLOGICAL INVESTIGATION IN A FOCUS OF INFECTION. 29 July 63, 96p. 71 refs. JPRS: 20376.
Order from OTS $2.25 63-31394

Trans. of mono. Epidemiologicheskoe Obsledovanie v Ochage Infektsii, Moscow, 1962, p. 3-131.

DESCRIPTORS: *Epidemiology, *Communicable diseases, *Disease vectors, Public health, *Typhoid, *Botulism, *Gastrointestinal system, Infections, *Hepatitus, *Poliomyelitis, *Influenza virus, *Diptheria, *Scarlet fever, *Measles, *Typhus fever, *Whooping cough.

The general method of epidemiological investigation and brief plans of measures to be taken for some of the frequently encountered infectious diseases are presented on the basis of the author's personal experience and data from the literature. The infections considered include: typhoid fever, paratyphoids A and B, food toxoinfections, bacterial dysentery, colienteritis, epidemic hepatitis (Botkin's disease), poliomyelitis, influenza, diphtheria, scarlet fever, measles, pertussis, and typhus.

Gyselen, A., Billiet, L., and Baisier, W.
DISTURBANCES OF DIFFUSION IN PULMONARY TUBERCULOSIS AND SILICO-TUBERCULOSIS. 4p. Tuberc. DVII-1 CV.
Order from OTS or ETC $0.80 63-26254

Trans. of unidentified Belgian article, n.p., n.d.

DESCRIPTORS: *Diseases, *Mycobacterium tuberculosis, *Lungs, Diffusion.

Hoppe, R.
PULMONARY TUBERCULOSIS IN PATIENTS OVER 50 YR. OF AGE. 4p. Tuberc. DIII-8 CV.
Order from OTS or ETC $0.80 63-26253

Trans. of unidentified German language article, n.p., n.d.

DESCRIPTORS: *Diseases, *Mycobacterium tuberculosis, Lungs, Aging (Physiology)

Lanyi, M.
THE CLINICAL SIGNIFICANCE OF TUBERCLE BACILLI INITIALLY RESISTANT TO ANTITUBERCULOTICS) (Klinische Gesichtspunkte der Initialresistenz der Tuberkelbazillen gegenüber Antituberculotica). 72p. (foreign text included). Tuberc. I-4.
Order from OTS or ETC $2.36 63-26263

Trans. of unidentified German Language article, n.p., n.d.

DESCRIPTORS: *Mycobacterium tuberculosis, Bacteria, Drugs, Chemotherapeutic agents, *Medicine.

Lapina, A. I.
THE ORGANIZATION OF TUBERCULOSIS CONTROL IN THE USSR. 6p. Tuberc. X-5.
Order from OTS or ETC $0.80 63-26255

Trans. of unidentified Russian language article, n.p., n.d.

DESCRIPTORS: *Diseases, *Mycobacterium tuberculosis, Control, Scientific organizations.

Mandel'tsvaig, Yu. B.
ONCOLOGICAL CONFERENCE (NO. 3) AND CONFERENCE OF ROENTGENOLOGISTS AND RADIOLOGISTS OF THE MOLDAVIAN SSR (NO. 4) Oct. 62. 26 Sep 63, 10p JPRS: 21231.
Order from OTS $0.50 63-31830

Trans. of Meditsinskaya Radiologiya (USSR) 1963, v. 8, no. 5, p. 89-94.

DESCRIPTORS: *Conferences, *Cancer, Tumors, X-ray photography, Radiotherapy.

Matzker, Joseph and Heinrich, Welker.
THE USE OF DIRECTIONAL HEARING AS AN INDEX TO DIAGNOSTIC LOCALIZATION OF CEREBRAL DISEASE (Die Prüfung des Ruchtungshörens zum Nachweis und zur Topischen Diagnostik von Hirnerkrankungen). [1963] [26p] (figs refs omitted)
Order from SLA $2.60 63-20217

Trans. of Zeit[schrift fllr] Laryngol[ogie] Rhinol[ogie] Otol[ogie und Ihre Grenzgebiete] (West Germany) 1959, v. 38, May, p. 277-294.

DESCRIPTORS: *Hearing, Diagnostic agents, *Cerebrium, Brain, *Tumors, Otorhinolaryngology.

Signals separated by the briefest of time intervals were applied to the two ears and the directional hearing tested in this was was found to be increasingly less accurate with advancing years. A technique was found of recording the experimental results on a "directional band" and used on patients with cerebral disease. The results were found to differ from those expected for the appropriate age groups and provided important clues in detecting and sometimes localizing lesions in the brain. The limitations of the method, which is inapplicable in the presence of a conductive or perceptive deafness are discussed. The "directional band" is likely to become a useful test in the diagnosis of cerebral disease. (Author)

Meissner, G.
PRIMARY DRUG RESISTANCE OF THE TUBERCLE BACILLUS, BACTERIOLOGICAL, THERAPEUTIC AND EPIDEMIOLOGICAL ASPECTS OF THE PROBLEM 24p. (foreign text included). Tuberc. I-1.
Order from OTS or ETC $0.92 63-26262

Trans. of unidentified German language article, n.p., n.d.

DESCRIPTORS: Diseases, *Mycobacterium tuberculosis, Drugs, *Chemotherapeutic agents, Bacteria, Therapy, Epidemiology.

Mikhailova, E. S.
THE PROBLEM OF TREATING INFLUENZA AND ACUTE CATARRH OF THE UPPER RESPIRATORY TRACT ON THE DISPENSARY LEVEL. 18 Sep 63, 2p JPRS: 21136.
Order from OTS $0.50 63-31783

Trans. of Sovetskoe Zdravookhranenie (USSR) 1963 [v. 22] no. 6, p. 16-17.

DESCRIPTORS: Diseases, *Influenza viruses, Therapy, Respiratory system, *Adenoviruses.

Pastukhov, B. N., ed.
ANTHRAX: [ORGANIZATIONAL AND METHODOLOGICAL MATHERIALS]. 23 Sep 63, 118p JPRS: 21185.
Order from OTS $2.50 63-31811

Trans. of mono. Sibirskaya Yazva: [Sbornik Organizatsionno-Metodicheskikh Materialov] Moscow, 1962 [147p] [compiled by E. N. Shlyakhov and V. A. Sinodskaya].
Another trans. is available from OTS or SLA $11.00 as 63-19233, ABL Trans-683, JPRS-R-2656-D, 1 Aug 62 [147p].

DESCRIPTORS: *Anthrax, Bacillus, Diseases, *Veterinary medicine, Animals, Sanitary engineering, Etiology, Diagnosis, Immunization, Instruction manuals.

For abstract see Technical Translations 10:267, 1963.

Shtern, R. D.
ON THE CLASSIFICATION OF TUMOROUS LESIONS. 19 Aug 63, 11p. 69 refs. JPRS: 20714.
Order from OTS $0.50 63-31571

Trans. of Arkhiv Patologii (USSR) 1963, v. 25, no. 3, p. 3-9.

DESCRIPTORS: Classification, *Tumors, Diseases, *Cancer, *Hemopoietic system, Leukemia, Reticuloendothelial system.

Ugryumov, V. M., Shamon, V. N., Badmaev, K. N., Volkov, A. A., and Muratkhodzhaev, N. K.
THE USE OF THE BETATRON AND RADIOACTIVE GOLD IN COMPLEX TREATMENT OF BRAIN TUMORS. 13 Sep 63, 6p JPRS; 21086.
Order from OTS $0.50 63-31762

Trans. of Voprosy Neirokhirurgii (USSR) 1963 [v. 27] no. 3, p. 37-41.

DESCRIPTORS: *Betatrons, *Gold, Radioactive isotopes, Tumors, *Brain, *Radiotherapy, *Neurology, Surgery, Medical equipment.

Ühlinger, E.
THE MORBID ANATOMY OF TUBERCULOSIS IN AGE GROUPS OVER 50. 8p. Tuberc. III-6.
Order from OTS or ETC $0.80 63-26256

Trans. of unidentified article, Zurich, n.d.

DESCRIPTORS: *Diseases, *Mycobacterium tuberculosis, Lungs, Aging (Physiology)

Ustin-Petrova, T. F. and Uglovoi, G. P.
THE EPIDEMIOLOGY OF TULAREMIA IN THE NATURAL NIDI OF KRASNODARSKII KRAI [AND] THE BIOLOGICAL ACTIVITY OF SKIN TULARIN AFTER STORAGE FOR VARIOUS PERIODS. 16 Sep 63, 21p. 10 refs JPRS: 21104.
Order from OTS $0.75 63-31774

Trans. of #Zhurnal Mikrobiologii, Epidemiologii i Immunobiologii (USSR) 1963, v. 40, no. 4, p. 117-122, 128-131.

DESCRIPTORS: *Epidemiology, *Tularemia, Disease vectors, *Ticks, Rodents, *Vaccines, Storage, *Antigens and antibodies.

Pharmacology and Toxicology

CHLORAL. [1963] 5p refs
Order from SLA $1.10 63-20076

Trans. of mono. Enzyklopadie der Technischen Chemie, n.p., 1916, v. 3, p. 403-406.

DESCRIPTORS: *Acetaldehydes, Chlorides, Hydrates, Synthesis (Chemistry), *Hypnotics and sedatives, *Antispasmotic agents.

CLINICAL PICTURE AND THERAPY OF INTOXICATION BY PESTICIDES (Klinika i Terapiya Otravlenii Pestitsidami). 20 Aug 63, 63p. JPRS: 20727.
Order from OTS $1.75 63-31578

Trans. of mono. Gigiena i Toksikologiya Novykh Pestitsidov i Klinika Otravlenii (Hygiene and Toxicology of New Pesticides and Clinical Picture of Poisoning) Moscow, 1962, chap. 10, p. 426-479.

DESCRIPTORS: *Toxicity, *Pesticides, *Chlorine compounds, *Mercury compounds, *Insecticides, *DDT, Therapy, *Hexachlorocyclohexanes, Synthesis (Chemistry), Metalorganic compounds.

Contents:
Materials for the study of the health of workers engaged in the productions of chlorindan and heptachlorine, by P. I. Kalyaganov
On the remote consequences of chronic intoxication by organic mercury compounds in workers engaged in the production of granozan, by M. I. Ashbel' and R. G. Khil'
On the remote consequences of the toxic affection of the cardio-vascular system in the intoxication of workers engaged in the production of granozan by organic mercury compounds, by N. S. Lashchenko
Concerning some of the characteristics of the clinical course of acute intoxication by mercaptophos and the intermediate products of its production, by I. S. Faerman and others
Materials for substantiating the prophylactic application of unithiol in work with organic mercury compounds, by I. M. Trakhtenberg and G. I. Kulik
Clinical picture and therapy of acute intoxications by mercaptophos, by A. V. Golubeva and E. R. Guglin
Peripheral blood modification in the early stages of the effect of organic chlorine insecticides (DDT and hexachloran), by E. P. Krasnyuk and G. G. Lysina
Functional condition of the kidneys in workers engaged in the production of DDT, by E. P. Krasnyuk
Table of contents.

PROCESS FOR PREPARATION OF NICOTINIC ACID. [1963] 2p
Order from OTS or SLA $1.10 63-18625

Trans. of French patent 899, 215, 24 May 45 [appl.] 28 Oct 43, by I. G. Farbenindustrie.

DESCRIPTORS: *Nicotinic acid, Vitamins, Drugs

The procedure for preparing nicotinic acid consists of heating pyridine- α, β-dicarboxylic acids, or their water-soluble monobasic salts, in the presence of water at temperatures over 160°C., profitably between 180 and 230°C. (Author)

TOXICOLOGY (MERCURY POISONING): SOVIET RESEARCH. 26 Jul 63, 66p 70 refs JPRS: 20350.
Order from OTS $1.75 63-31382

Trans. of #Farmakologiya i Toksikologiya (USSR) 1960, v. 23, no. 1, p. 67-71; Gigiyena i Sanitariya (USSR) 1958, v. 23, no. 4, p. 75-77; Gigiyena Truda i Professional'nye Zabolevaniya (USSR) [1958(?) v. 2, no. no. 1(?)] p. 44-48; 1961 [v. 5] no. 11, p. 23-29; Kazanskii Meditsinskii Zhurnal (USSR) 1960 [v. 41] no. 5, p. 81-84; Vestnik Oto-Rino-Laringologii (USSR) 1958, v. 20, no. 4, p. 32-37; Vrachebnoe Delo (USSR) 1957, no. 1, p. 5-8, 88; 1959, no. 6, p. 625-628; Zdravookhranenie Belorussii (USSR) 1959, v. 5, no. 2, p. 44-45.

DESCRIPTORS: *Metal poisoning, *Mercury, *Toxicity, *Medical research, Blood proteins, Thyroid gland,

Cardiovascular system, Arsenic compounds, *Industrial medicine, Organic compounds, Ear, Hearing, Atmospheric pollution, Medicine, Laboratories.

Contents:
Level of certain reactive protein groups of blood serum in chronic mercury intoxication, by V. A. Shalimov
The problem of the functional state of the thyroid gland in chronic intoxications with certain industrial poisons (lead, mercury), by A. M. Monaenkova
Toxic changes in the cardio-vascular system in chronic intoxication with organic mercury compounds, by N. S. Lashchenko
Application of unithiol in arsenic and mercury poisoning, by G. A. Belonozhko and others
Treating mercury poisoning with unithiol, by S. I. Ashbel' and V. A. Tret'yakova
Blood picture of individuals working with mercury and its organic compounds, by V. E. Balashov
Disturbance of auditory and vestibular functions in chronic intoxication with mercury, by Z. F. Nestrugina and A. M. Natanzon
Pollution of the air by mercury fumes at a control-testing station, by M. M. Gimadeev
Improving working conditions in mercury laboratories, by V. S. Shadurskaya and others
Prevention of occupational mercury poisoning, by M. M. Gimadeev

Aleksandrow, D., Wysznacka, W., and Michajlik, A.
EXPERIENCES WITH THE USE OF GUANETHIDINE IN ARTERIAL HYPERTENSION WITH PARTICULAR CONSIDERATION OF ITS EFFECT ON RENAL FUNCTIONS AND SODIUM EXCRETION. [1963] 12p.
Order from ATS $18.75 ATS-20Q71P

Trans. of Polski Tygod[nik] Lekar[ski] 1962, v. 17, no. 1, p. 1-7.

DESCRIPTORS: *Guanethidine, Drugs, *Hypertension, Arteries, Kidneys, Sodium, Excretion

Aleshin, B. V. and Us, L. A.
THE EFFECT OF AMINAZINE ON THE FUNCTION AND STRUCTURE OF THE ANTERIOR LOBE OF HYPOPHYSIS IN SOME EXPERIMENTALLY INDUCED REACTIONS (Vliyanie Aminazina na Funktsii i Strukturu Perednei Doli Gipofiza pri Nekotorykh Eksperimental'nykh Vozdeistviyakh) tr. by Wanda M. Feeley. Aug 61, 21p. (refs. omitted). PSC no. 60-696.
Order from OTS or SLA $2.60 63-19721

Trans. of Problemy Endokrinologii i Gormonoterapii (USSR) 1960, v. 6 [no. 3] p. 32-45.

DESCRIPTORS: *Chlorpromazine, Drugs, Psychotropic agents, *Pituitary gland, *Reaction (Psychology), Adrenotropic hormone, Thyroid gland, Thyroid hormones.

Borodin, Yu. P.
ANTIBODIES TO PENICILLIN. 27 Sep 63, 8p 8refs JPRS: 21234.
Order from OTS $0.50 63-31832

Trans. of Sovetskaya Meditsina (USSR) 1963, v. 27, no. 7, p. 74-78.

DESCRIPTORS: *Antigens and antibodies, *Penicillins, Antibiotics, Drugs, *Allergy.

Using the reaction of passive hemagglutination an investigation was made of the sera of 517 patients. Antibodies to penicillin were found in the sera of 52 patients. Patients with antibodies were affected with various diseases, however in 32 patients concomitant allergic diseases were revealed. The cause of antibody formation was associated with penicillin in 92.2 per cent, whereas in 7.8 per cent of cases it was due to concomitant fungal affections. Out of 62 patients with antibodies in 5 (9.6 percent) there were allergic complications caused by penicillin. In another group of 25 patients with a distinct allergy to penicillin (anaphylactic shock, urticaria, etc.) no antibodies to the latter were found. The titer of antibodies to penicillin ranged from 1:2 to 1:128, it was somewhat higher in patients manifesting allergy to penicillin. Eighteen patients with antibodies in the serum underwent penicillin therapy in doses ranging from 400,000 to 10-18 million Units. Treatment with penicillin in this group of patients did not provoke allergic complications and changes in the blood. The clinical importance of antibodies to penicillin are discussed. (Author)

Buu-Hoi, N. P.
THE MECHANISMS OF CANCEROGENESIS AND THE PROBLEM OF CHEMOTHERAPY OF TUMORS. [1963] 5p (refs omitted)
Order from SLA $1.10 63-18509

Trans. of Med[ecine] et Hyg[iene] (Switzerland) 1959, v. 17, p. 478ff.

DESCRIPTORS: *Cancer, Carcinogenic agents, Antineoplastic agents, Drugs, Chemotherapeutic agents, Tumors

Danysz, A. and Skupinski, S.
THE INFLUENCE OF NICOTINE AND CIGARETTE PAPER SMOKE ON THE LEVEL OF VITAMIN C IN FROG ORGANS AND MOUSE URINE. [1963] 4p 2refs
Order from SLA $1.10 63-18513

Trans. of Przeglad Lekarski (Poland) 1955 [ser. 2, v. 11] no. 10, p. 314-315.
Another trans. is available from K-H $5.00 as K-H-12057-a [1962] 4p.

DESCRIPTORS: *Nicotine, *Cigarettes, Paper, *Smokes, Urine, *Ascorbic acid, Tissues (Biology).

Nicotine administered to frogs in toxic doses during 12 days does not produce bigger deviations in the level of vitamin C in their organs. The smoke from burned cigarette paper produces a temporary decrease in the level of vitamin C in mouse urine amounting to 40%. The influence of "cigarette paper" smoke on the level of vitamin C differs from the influence of tobacco smoke; under the influence of tobacco smoke there was a constant decrease of the vitamin C level down to a very small values. Discussion of results and final conclusions. Considerable disorders in the level of vitamin C occurring in the organism of animals and characteristic for tobacco smoke are not produced by nicotine or exclusively by the components of smoke released by burning cigarette paper. This decrease in the level of vitamin C in the organism is produced by other components which are specific for tobacco smoke; "cigarette paper smoke" naturally does not contain such components. (Author)

Dumova, A. M. and Chirkova, O. O.
THE USE OF TETRACYCLINE ANTIBIOTICS IN EXPERIMENTAL RADIATION SICKNESS. 23 Sep 63, 10p 21 refs JPRS: 21189.
Order from OTS $0.50 63-31813

Trans. of #Antibiotiki (USSR) 1963, v. 8, no. 8, p. 723-728.

DESCRIPTORS: *Tetracyclines, *Antibiotics, Drugs, *Radiation sickness, *Radioprotective agents.

The tetracycline antibiotics were found to protect 38 to 65% of the animals as compared to 90% death cases of control rats from radiation sickness. Evident clinical signs of radiation sickness were observed in cases of the treatment 3-5 days later than in the control. Inoculabity of the microflora in case of radiation sickness from the organs of white rats treated with oxytetracycline and the control animals (irradiated only) is studied. No significant quantitative difference was observed in the semination of the internal organs in both groups. Only qualitative changes were detected in the aerobic microflora, that manifest themselves in a more frequent inoculation of Proteus from the lungs and the intestine and an increased oxytetracycline resistance of Faecalis alcaligenes strains isolated from rats treated with the antibiotic. The tetracycline antibiotics are supposed to protect the animals from death in the case of radiation sickness, increasing nonspecific defensive forces of the organism. (Author)

Eichler, Oskar.
CHROMIUM: CHROMATES, TOXICOLOGY AND SIGNS OF POISONING [AND] CHRONIC INTOXICATION. [Jul 53] 10p 51refs
Order from SLA $1.10 63-18773

Partial trans. (p. 1518ff and 1532-1534) of Handbuch der Experimentellen Pharmakologie (Germany) 1934, p. 1503-1534.

DESCRIPTORS: *Chromium, *Chromates, *Poisoning, Toxicity, Metal poisoning.

Engler, C. and Dieckhoff, E.
TAR OIL-SOAP SOLUTIONS, ESPECIALLY LYSOL, AND THEIR USE AS DISINFECTANTS. [1963] 19p.
Order from ATS $26.50 ATS-81Q70G

Trans. of Arch[iv der] Pharm[azie] (Germany) 1892, v. 230, p. 561-589.

DESCRIPTORS: *Soaps, Oils, Tar, *Germicides.

Flury, F[erdinand] and Zernik, F[ranz].
MERCURY. [1963] 12p 24refs
Order from SLA $1.60 63-20081

Trans. of mono. [Schädliche Gase, Dampfe, Nebel, Rauch- und Staubarten] (Harmful Gases) [Berlin] 1931, p. 232-238.

DESCRIPTORS: *Metal poisoning, *Mercury, *Mercury compounds, Vapors, Vapor pressure, Toxicity, Therapy.

Gasche, P. and Schuber, W.
ON THE EFFECTS OF PREGNENOLONE (Δ^5-PREGNEN-3 β -OL-(20)-ONE) AND TESTOSTERONE PROPIONATE (PERANDREN) ON THE ORGANS OF RATS. [1963] 4p 6refs
Order from SLA $1.10 63-18511

Trans. of Hel[vetica] Physiol[ologica et Pharmacologica] Acta (Switzerland) 1946, v. 4, p. C11-C12.

DESCRIPTORS: *Pregnandiols, *Testosterone, *Sex glands, Rats, Drugs, Hormones

Glezer, G. L. and Basko, P. M.
A CASE OF INDIVIDUAL AMINAZINE INTOLERANCE (Sluchai Individual'noi Neperenosimosti Aminazina) tr. by Wanda M. Feeley. July 61, 3p. PSC no. 60-1903.
Order from OTS or SLA $1.10 63-19712

Trans. of Sovetskaya Meditsina (USSR) 1960, v. 24, no. 7, p. 131-132.

DESCRIPTORS: *Chlorpromazine, Drugs, Psychotropic agents, Toxicity, *Tolerences (Physiology).

Hesse, E.
INDIUM. [1963] 2p 10refs
Order from SLA $1.10 63-20097

Trans. of [Handbuch der Experimentellen Pharmakologie (Germany) 1934] v. 3, pt. 3, p. 2186-2187.

DESCRIPTORS: *Indium, Chemical properties, Secretion, Toxicity, *Indium compounds, Pharmacology, *Metal poisoning.

Klaus, D., Kaffarnik, H., and Pfeil, H.
STUDIES ABOUT SERUM-ANGIOTENSINASE. I. METHODS AND BIOCHEMICAL QUALITIES. II. CLINICAL RESULTS AT HYPERTENSION AND LIVER DISEASES (Untersuchungen über die Serum-Angiotensinase. I. Mitteilung. Methodik und Biochemische Eigenschaften. II. Mitteilung. Klinische Ergebnisse beim Hochdruck und bei Lebererkrankungen). [1963] 17p (figs refs tables omitted)
Order from SLA $1.60 63-20228

Trans. of Klinische Wochenschrift (West Germany) 1963, v. 41, p. 376-385.

DESCRIPTORS: Enzymes, Inhibition, Drugs, *Hypertensin, *Blood, proteins, Diseases, *Liver, *Hypertension.

Mandel'shtam, Yu. E.
PHYSIOLOGICAL MECHANISM OF THE EFFECT OF ORGANIC PHOSPHORUS COMPOUNDS ON INSECTS. 13 Sep 63, 12p. 28 refs. JPRS: 21087.
Order from OTS $0.50 63-31763

Trans. of #Entomologicheskoe Obozrenie (USSR) 1963, v. 42, no. 2, p. 329-336.

DESCRIPTORS: Physiology, *Organic compounds, *Phosphorus, *Insects, Insecticides, Cholinesterase inhibitors, Toxicity, Nerve cells, *Neuromuscular transmission.

Anticholinesterase substances (armin, ezerin, preparations GD-7 and R-2) when applied to the ganglionic structures of the Asiatic locust imago and silkworm caterpillar elicit excitation and subsequent blocking of nerve impulse transmission. Experiments with preparations GD-7 and GD-42, ezerin and prozerin have shown that the presence of a charge reduces the toxicity of anticholinesterase substances. Uncharged compounds penetrate into the central nervous system of insects much better. This fact must be taken into consideration in the synthesis of new organic phosphorus insecticides. Cholinergic mechanisms play an essential role in the activity of the central nervous system of insects and in the mechanism of action of organic phosphorus insecticides. The inefficacy of a number of cholinolytic preparations is probably due primarily to the specificity of the cholinoreceptive zones of synapses in insects. The significance of the histochemically demonstrated cholinesterase in neuromuscular transmission in insects is unclear as related to total inefficacy of all anticholinesterase substances in these synapses. (Author)

Müller, J.
FACTORS INFLUENCING THE MECHANISM OF LEAD POISONING. [1963] [16p] (figs. omitted) 9refs
Order from SLA $1.60 63-18772

Trans. of Pracovni Lekarstvi (Czechoslovakia) 1950, v. 2, p. 49-61.

DESCRIPTORS: *Metal poisoning, Blood, Lead, Toxicity, Cells (Biology), Adsorption.

Neu, Josef.
THE CHEMICAL BEHAVIOR OF LEAD BULLETS IN THE HUMAN BODY. [1963] 4p
Order from SLA $1.10 63-18475

Trans. of Med[izinisches Korrespondenzblatt für] Württemb[erg] (Germany) 1915, v. 85, p. 433, 445.

DESCRIPTORS: *Body, *Projectiles, *Metal poisoning, Lead compounds, Solubility, *Bullet wounds.

Ozhiganov, F.
IMPROVEMENTS NEEDED IN DRUG ADMINISTRATION. 26 Sep 63, 3p. JPRS: 21232.
Order from OTS $0.50 63-31831

Trans. from Sovetskaya Rossiya (USSR) 1963, 27 Jul, p. 2.

DESCRIPTORS: *Drugs, Distribution.

Pessano, Juan Esteban.
ANTITOBACCO CAMPAIGN AMONG HIGH SCHOOL AND COLLEGE STUDENTS. [1962] 8p.
Order from K-H $10.00 K-H-10265-e

Trans. of Bol. San. Dep. Nec. Hig. Buenos Aires (sic) 1942, v. 6, suppl. 1, p. 731-737.

DESCRIPTORS: *Cigarettes, Tobacco, *Smokes, *Students

Raoul, Yves-Jean-Louis.
PREPARATION OF A CRYSTALLINE ANTIRACHITIC MATERIAL FROM CHOLESTEROL. [1963] 3p
Order from OTS or SLA $1.10 63-18639

Trans. of French patent 1,055,831, appl. 5 Mar 51, issued 21 Oct 53.

DESCRIPTORS: Drugs, *Vitamins, *Deficiency diseases, Preparation, *Cholesterol

The invention involves the preparation of a highly antirachitic material in crystalline form from cholesterol, treated with a mixture of sulfuric acid and acetic anhydride without irradiation. (Author)

Schmidt, Paul, Seiser, A., and Litzner, S.
ABSORPTION, DISTRIBUTION AND EXCRETION OF LEAD: LEAD ABSORPTION [AND] LEAD DISTRIBUTION. [1963] 7p
Order from SLA $1.10 63-20106

Partial trans. (p. 17-21) of mono. [Bleivergiftung] (Lead Poisoning) Berlin/Vienna, 1930, sect B, p. 17-25.

DESCRIPTORS: *Metal poisoning, *Lead, Toxicity, Absorption, Distribution, Excretion.

Schmidt, P[aul] Seiser [A.] and Litzner [S].
ABSORPTION, DISTRIBUTION AND EXCRETION OF LEAD: LEAD EXCRETION. [1963] 4p
Order from SLA $1.10 63-20107

Partial trans. p. 22-25 of mono. [Bleivergiftung (Lead Poisoning) Berlin/Vienna] 1930, sect. B, p. 17-25.

DESCRIPTORS: *Metal poisoning, *Lead, Toxicity, Absorption, Distribution, Excretion.

Schmidt, Paul [Seiser, A., and Litzner, S.].
THE CENTRAL NERVOUS SYSTEM. [1963] 5p 6refs
Order from SLA $1.10 63-20108

Trans. of mono. [Bleivergiftung] (Lead Poisoning) [Berlin[Vienna] 1930, p. 36-39.

DESCRIPTORS: *Metal poisoning, *Lead, Toxicity, *Brain, *Spinal cord, Wounds and injuries.

Schmidt, P[aul, Seiser, A., and Litzner, S.]
SIGNIFICANCE OF THE CHEMICAL DEMONSTRATION OF LEAD IN THE BLOOD. [1963] 5p
Order from SLA $1.10 63-20110

Trans. of mono. [Bleivergiftung] (Lead Poisoning) Berlin [Vienna] 1930, p. 64-67.

DESCRIPTORS: *Metal poisoning, *Lead, Toxicity, *Blood, Chemical analysis. Diagnosis.

Schmidt, Paul, Seiser, A., and Litzner, S.
TREATMENT OF LEAD POISONING. [1963] 7p
Order from SLA $1.10 63-20111

Trans. of mono. [Bleivergiftung] (Lead Poisoning) Berlin/Vienna, 1930, sect. F., p. 70-74.

DESCRIPTORS: *Metal poisoning, *Lead, Toxicity, Therapy.

Skvortsov, V. V., Kiktenko, V. S., and Kucherenko, V. D.
SURVIVAL AND DETECTION OF PATHOGENIC MICROBES IN THE ENVIRONMENT. 27 Sep 63, 285p refs JPRS: 21246.
Order from OTS $4.00 63-31842

Trans. of mono. Vyzhivaemost' i Indikatsiya Patogennykh Mikrobov vo Vneshnei Srede, Moscow, 1960, 349p.

DESCRIPTORS: Biological warfare, *Biological warfare agents, Detection, Survival, Microorganisms, Contamination, Water supplies, Food, Soils, Atmospheric pollution.

The guide is designed for microbiologists, epidemiologists, sanitation physicians, specialists on disinfection and infectious diseases as well as all other medical workers engaged in problems of protecting the civiaian population against bacteriological weapons. The book includes sections on the intentional spread of infectious diseases, the survival of pathogenic microbes in the environment, as well as the organization of laboratories and detection of bacteriological weapons. (Soviet editor's note)

Söhring, Kl[aus], Dass, H., and Stave, U.
CONTRIBUTIONS TO THE PHARMACOLOGY OF ALKYL-POLYETHYLENE OXIDE DERIVATIVES. II. EFFECTS ON A PHRENIC NERVE-DIAPHRAGM SPECIMEN OF THE RAT. [1963] 21p (4 figs. omitted) 34refs
Order from SLA $2.60 63-18867

Trans. of Arch[ives] Int[ernationales de] Pharmacodyn[amie et de Thérapie] (Belgium) 1952, v. 89, no. 4, p. 365-379.

DESCRIPTORS: *Alkyl radical, *Ethylenes, Oxides, *Nerves, *Diaphragm, Drugs.

The action of some polyethylene oxide alkyl ethers on the phrenic-nerve-diaphragm specimen of the rat was investigated according to Buelbring by means of the technique described by Soehring and Stave which was modified with a new electrode. It was found that the inhibition of the nerve conductivity--measured by the pulse heights of the individual contractions--is directly proportional to the molecular weight up to an average molecular weight of 600. The contractions observed with higher concentrations are the result of a direct attack on the "contractile substance," as was shown by experiments with a special electrode. With the experimental arrangement utilized, the esterification of the free OH-group in the polyethylene oxide part of the molecule has the result that the distribution ratio of nerve-muscle might possibly be shifted in favor of the muscle. The concentration-action curve has a maximum in this case for the concentration of 10^{-6} mole. The significance of this deviation from the ordinary conditions with respect to molecular aggregation was considered. (Author)

Stahl, Egon.
INACTIVATION OF PYRETHRINS AT THE SITE OF ACTION. [1963] 8p.
Order from ATS $9.50 ATS-88Q70G

Trans. of Arch[iv der] Pharm[azie] (West Germany) 1960, v. 293, no. 5, p. 531-537.

DESCRIPTORS: *Insecticides, Insect repellants, Pest control.

Stellmach, R., Schröder, E., and Söhring, K[laus]. [DETERMINATION] OF ANALGESIC EFFECTS IN ANIMAL EXPERIMENTS. III. QUANTITATIVE EVALUATION OF LOCAL ANALGETICS ON THE SKULL OF THE DOG. [1963] 27p (5 figs. omitted) 18refs
Order from SLA $2.60 63-18871

Trans. of Arch[ives] Int[ernationales de] Pharmacodyn[amie et de Thérapie] (Belgium) 1952, v. 89, no. 4, p. 380-398.

DESCRIPTORS: *Analgesics and antipyretics, Head, Dogs, Drugs, *Local anesthetics, Biological assay.

A report is made on a method of investigation which makes it possible to encompass objectively analgetic effects after conduction analgesia on the skull of the dog. Comparative measurements are reported between the local-analgetic effect of a standardized 2% novocain/suprarenin solution and an aqueous solution of polyoxyethylenealkyl ether Sch 600. It is possible to obtain conduction analgesias in the dog with both substances. The rise and the peak of the analgesic action are similar. The remaining course of the effect is different. The effect of novocain/suprarenin drops off a little after reaching the maximum and then remains at the same level. At the end of the duration of the effect there follows a steep descent to the zero point. After reaching the peak point the effect of Sch 600 drops almost linearly to the zero point. In comparison with novocain/suprarenin at the same concentration the effect persists for a considerably longer period. (Author) (See also 63-18869)

Suvorov, N. N.
INDUSTRIAL SYNTHESIS OF CORTISONE. [1963] 7p.
Order from ATS $9.80 ATS-00Q71R

Trans. of Med[itsinskaya] Prom[yshlennost'] SSSR, 1956 [v. 10] no. 3, p. 22-27.

DESCRIPTORS: Synthesis (Chemistry), *Corticosteroid agents, Drugs

Tomita, M., Uyeno, S. and others.
RECHERCHES SUR LA SYNTHÈSE DES ANTHELMINTHIQUES. 4me Rapport. (Synthesis of Anthelmintics). 6p.
Order from OTS, ETC or CNRS $0.80 62-26908

Trans. in French of unidentified Japanese language article, n.d.

DESCRIPTORS: *Drugs, *Worms, *Resorcinol, Chlorine compounds, Alkyl radicals, *Capric acids.

Weinges, K. F.
ACTION OF GLUCAGON ON THE TOTAL AMINO ACIDS IN THE SERUM (Die Wirkung des Glucagons auf die Gesamtaminosäuren im Serum) [1963] 9p. (foreign text included) 25 refs.
Order from SLA $1.10 63-16516

Trans. of Naunyn-Schmiedeberg's Archiv fur Experimentelle Pathologie and Pharmakologie (West Germany) 1959, v. 237, p. 17-21.

DESCRIPTORS: *Glucagon, *Amino acids, Drugs, *Blood serum, Blood chemistry, Biochemistry, Hypoglycemia, Biological assay.

The behavior of the total amino acids and of the inorganic phosphate in the serum, as well as of blood sugar, was investigated on healthy experimental persons after subcutaneous injection of 2 mg. of glucagon. The previously described, known increase of blood sugar and decrease of inorganic phosphate in the serum after glucagon were confirmed. In contrast to Appel and in agreement with Bondy and Cardillo, a significant decrease of the total amino acids in the serum was found. After 2 hours they fall to a minimum of 75% of the initial value and after 6 hours return to normal values. (Author)

Weyrauch.
NEW INVESTIGATIONS [DEALING WITH THE ABSORPTION] OF LEAD AND ITS DISTRIBUTION IN THE ORGANISM IN EXPERIMENTAL POISONING. PT. I. [1963] 23p 25refs
Order from SLA $2.60 63-20191

Trans. of Z[eitschrift] f[ür] Hyg[iene und Infektionskrankheiten] Germany) 1930, v. 111, p. 162-179.

DESCRIPTORS: *Metal poisoning, *Lead, Absorption (Biological), Toxicity, Chemical analysis, *Bone, *Blood, Distribution, *Body, *Blood circulation.

Weyrauch.
NEW INVESTIGATIONS DEALING WITH THE ABSORPTION OF LEAD AND ITS DISTRIBUTION IN THE ORGANISM IN EXPERIMENTAL POISONING, PT. II. [1963] 12p 8refs
Order from SLA $1.60 63-20192

Trans. of Z[eitschrift] f[ür] Hyg[iene und Infektionskrankheiten] (Germany) 1931, v. 112, p. 559-[568].

DESCRIPTORS: *Metal poisoning, *Lead, Toxicity, *Gastrointestinal system, Distribution, *Respiratory system, Absorption (Biological).

(See also 63-20191)

Zhuruli, L.
NEW DRUGS DEVELOPED BY INSTITUTE OF FINE ORGANIC CHEMISTRY OF THE ACADEMY OF CHEMICAL SCIENCES ARMENIAN SSR. 19 Sep 63, 7p JPRS: 21148.
Order from OTS $0.50 63-31793

Trans. of Nauka i Tekhnika (Latvian SSR) 1963, no. 6, p. 26-27.

DESCRIPTORS: *Drugs, Scientific research.

Radiobiology

RADIOACTIVITY IN DIAGNOSIS AND TREATMENT. 1 Oct 63, 49p 103refs JPRS: 21280.
Order from OTS $1.50 63-31862

Trans. of Meditsinskaya Radiologiya (USSR) 1963, v. 8, no. 7, p. 3-11, 23-28, 52-56, 62-67, 82-87.

DESCRIPTORS: *Radiotherapy, *Diagnosis, Therapy, Radioactive isotopes, Colloids, *Tumors, Brain, Radiation sickness, Metabolism, *Atherosclerosis, *Radiation effects, *Ear, Radioactivity.

Contents:
Some data on the application of new radioactive isotopes to clinical diagnostic studies, by M. N. Fateeva
The utilization of colloidal radioactive isotopes for radiation therapy of craniopharyngiomas, by A. A. Volkov and others
Reduction of the rate of recovery processes as a characteristic feature of acute radiation sickness after repeated irradiation, by V. A. Rezontov
The effect of whole body alpha-therapy on lipoid metabolism in experimental arteriosclerosis, by F. L. Leites
The effect of ionizing radiation on the function of the vestibular analyzer (reviews) by A. V. Sevan'kaev and A. A. Sveshnikov.

STUDIES IN THE FIELD OF MEDICAL RADIOLOGY. 25 Sep 63, 87p 203refs JPRS: 21214.
Order from OTS $2.25 63-31821

Trans. of Meditsinskaya Radiologiya (USSR) 1963, v. 8, no. 6, p. 27-73, 85-91.

DESCRIPTORS: Radiobiology, *Radioprotective agents, *Cysteinamines, *Radiation injuries, Kidney function tests, Thiols, Hemopoietic system, *Bone marrow, *Erythrocytes, Radiation sickness, *Transplantation, Laboratory animals, Radiation effects.

Contents:
The mechanism of action of antiradiation agents, by V. I. Kuznetsov and M. S. Kushakovskii
Analysis of the action of radioprotective agents from the aspect of their practical application, by S. P. Yarmonenko
Potentiometric determination of the effectiveness of cysteamine protection on mice, by G. V. Sumarukov and Yu. B. Kudryashov
The effect of unithiole on the kidney function of dogs injured by ionizing radiation, by Z. I. Poluboyarinova
Transformation of hemopoietic cells of transplanted allogenous bone marrow into immunologically competent cells in irradiated dogs, by I. L. Chertkov and others
Study of the dynamics of erythropoiesis by means of thymidine-H^3, Fe^{59} and erythropoietin, by G. I. Kozinets and others
The mechanism of the therapeutic effect of bone marrow transfusions in the treatment of radiation sickness, by M. P. Bogoyavlenskaya and others
The effect of homologous bone marrow transplantation on certain reactivity indices and the survival of lethally irradiated rats, by I. G. Veksler
The reception of ionizing radiation by the organism, by Yu. G. Grigor'ev and L. N. Kvasnikova.

Afanas'ev, G. G., Sapezhinskii, I. I. and others.
SENSITIZATION OF TUMOR CELLS TO THE ACTION OF IONIZING RADIATION BY RADICAL-REACTION INHIBITORS [AND] REACTION OF IRRADIATED PROTEIN RADICALS WITH ALKYLPHENOLS. 29 July 63, 9p. 24 refs. JPRS: 20375.
Order from OTS $0.50 63-31393

Trans. of Akademiya Nauk SSSR. Doklady, 1963, v. 148, no. 5, p. 1199-1201, 1207-1209.

DESCRIPTORS: *Antigen-antibody reactions, *Tumors, Cells (Biology), Cancer, Ionization, *Radiation effects, Free radicals, Chemical reactions, *Radioprotective agents, Proteins, Alkyl radicals, Phenols. *Antioxidants.

Akamsin, A. D., Polikarpov, G. G., and Lanskaya, L. A.
DISTRIBUTION OF P^{32}, S^{35}, Sr^{90}, Y^{91}, AND Ce^{144} BETWEEN SEA WATER AND BOTTOM UNDER EXPERIMENTAL CONDITIONS [AND] REPRODUCTION OF THE MASS ONE-CELLED ALGA PROROCENTRUM MICANS EHR. IN THE PRESENCE OF S^{35}.
26 Aug 63, 12p. 16 refs. JPRS: 20795.
Order from OTS $0.50 63-31614

Trans. of [Akademiya Nauk SSSR]. Sevastopol'skaya Biologicheskaya Stantsiya. Trudy, 1961, v. 14, p. 309-313, 329-333.

DESCRIPTORS: Labeled substances, *Sea water, *Benthos, Marine biology, Reproduction, *Algae, *Radiation effects, Mutations, Genetics, Radioactive isotopes, Radiological contamination, Phosphorus, Sulfur, Strontium, Cerium, Yttrium.

Sr^{90} and S^{35} is practically completely unadsorbed from sea water onto the main types of marine bottoms. The radioactive isotope of phosphorus--P^{32}--in the anionic form is adsorbed from sea water by the main types of marine bottoms to a small extent. Radioactive isotopes of the rare-earth element--Y^{91} and Ce^{144}-- are quantitatively adsorbed onto all main types of marine bottoms. (Akamsin) Soft beta-irradiation at an energy of 0.169 mev has both a stimulating (at a concentration of S^{35} in water of the order of 10^{-6} Cu/l) as well as an especially inhibitory (at high concentrations) action on multiplication of mass aquatic one-celled alga Prorocentrum micans. The radiational after effect appeared evidently mainly in the third generation, where at an S^{35} concentration of 10^{-5} Cu/l and higher cells lost their ability to divide up to the end of the experiment, ie, up to the fifth generation inclusively. (Polikarpov and Lanskaya)

Dolgov, E. G.
SHIFTS IN ADSORPTIVITY OF TISSUE IN ACCUTE RADIATION SICKNESS. 19 Aug 63, 6p. 15 refs. JPRS: 20713.
Order from OTS $0.50 63-31570

Trans of Arkhiv Patologii (USSR) 1963 [v. 25] no. 3, p. 62-25.

DESCRIPTORS: *Radiation sickness, *Adsorption, *Tussues (Biology), Gamma rays, Rats Staining.

As the result of single generalized irradiation of white rats with a lethal dose of gamma rays (800 roentgen units) the adsorptivity of the tissues of the liver, kidneys, small intestine, spleen, lungs, and brain increases. Increased adsorptive function of tissular elements occurs immediately (within 6 hours) after irradiation and by the third day it reaches its maximum peak. These changes are the most marked in the tissues of the small intestine and spleen. The nature of the shift in adsorptivity reflects the dynamics of the alterational changes arising in the tissues under the effect of gamma rays upon the organism. (Author)

Gorodetskaya, S. F.
THE EFFECT OF CENTIMETER RADIO WAVES ON MOUSE FERTILITY. 24 Sep 63, 3p JPRS: 21200.
Order from OTS $0.50 63-31815

Trans. of Fiziologichnyi Zhurnal (USSR) 1963, v. 9, no. 3, p. 394-395.

DESCRIPTORS: *Radio waves, Mice, *Fertility, Sex glands, Reproduction (Physiology), Radiation effects.

Overall irradiation with centimeter waves has a strong effect on the sex glands of female mice. There is a sharp drop in the fertility of irradiated mice, as evidenced by the reduced litter sizes and a higher stillbirth rate. Histological studies of the sex organs of mice confirmed our conclusions drawn on the basis of functional tests. Changes were noted in the morphology and functioning of the sex organs of mice upon irradiation with centimeter waves; these had a reversible character, however. (Author)

Graevskii, A. Ya., Barakina, N. F. and others.
STUDIES OF PROTECTION OF MAMMALS AGAINST RADIATION. 6 Sep 63, 18p. 26 refs. JPRS: 20964.
Order from OTS $0.50 63-31698

Trans. of Zhurnal Obshchei Biologii (USSR) 1963, v. 24, no. 3, p. 182-193.

DESCRIPTORS: *Radioprotective agents, *Mammals, *Radiation effects, Radiation injuries, Oxygen, Tissues (Biology).

Kosichenko, L. P.
TWENTY-FOUR HOUR PERIODICITY OF MITOSES IN MICE FOLLOWING THE ACTION OF GAMMA-RAYS. 21 Aug 63, 6p. 8 refs. JPRS: 20735.
Order from OTS $0.50 63-31585

Trans. of #Byulleten' Eksperimental'noi Biologii i Meditsiny (USSR) 1963, v. 55, no. 1, p. 114-117.

DESCRIPTORS: *Mitosis, *Cornea, *Gamma rays, *Mice, Radiation effects.

A study was made of the effect produced by ionizing radiation (190 and 400 r) on the 24-hour periodicity of mitotic activity of the mouse corneal epithelium. The 24-hour mitotic rhythm was retained on the 5th post-irradiation day (a dose of 190 and 400 r being used). The time of the maximal (8 a. m.) and the minimal (8 p. m.) number of mitosis in the corneal epithelium of experimental mice coincided with control indices. The difference between the maximal and minimal mitotic activity in the two experiments was highly authentic. The range of the 24-hour variations of the number of mitoses showed no significant change in the experimental animals. After irradiation of mice in a dose of 400 r there was a tendency to a rise of the mean 24-hour intensity of cellular multiplication. (Author)

Pavlova, M. N.
MORPHOLOGICAL CHANGES OF BONE TISSUE NERVES OF ANIMALS IN ACUTE RADIATION SICKNESS. 20 Aug 63, 9p. 11 refs. JPRS: 20720.
Order from OTS $0.50 63-31575

Trans. of Ortopediya, Travmatologiya i Protezirovanie (USSR) 1963, v. 24, no. 2, p. 9-14.

DESCRIPTORS: *Bone, *Radiation sickness, *Nerves, Tissues (Biology), Morphology.

Animals suffering from acute radiation sickness following generalized roentgen irradiation demonstrated distinct morphological changes in the nerve fibers of bone tissue. This deformation of nerve fibers took the form of varicose swelling in the neuraxis, defibrillation of neurofibrils, vacuolization of the myelin sheath and granulo-nodular fragmentation. The uniformity of the changes is typical for all of the nerves of the bone -- those that go through the periosteum, the bone canals of the cortical layer and in the bone marrow tissue. However, in the animals that were destroyed and those that died of radiation sickness (eighth, tenth, twelfth, fifteenth, eighteenth day), these changes were considerably more marked in the nerve and bone tissue. Medullated nerve fibers and the vast majority of non-medullated fibers of these animals remained in a granulo-nodular state of disintegration until the animals death. These pathological changes of the nerve fibers became irreversible. In the bone tissue of the animals which died [but were not put to death] the active process of resorption led to the formation of large hollows in the cortical layer and to thinning of the cortical layer of the diaphysis and of the trabeculae of the epiphyseal spongiosa. (Author)

Polikarpov, G. G., Akamsin, A. D., and Parchevskii, V. P.
RADIOACTIVE ISOTOPES AND IONIZING RADIATIONS IN MARINE BIOLOGY [AND] THE RADIOACTIVITY OF SOME REPRESENTATIVES OF BLACK SEA PLANKTON, BENTHOS AND NEKTON. 13 Aug 63, 31p. 147 refs. JPRS: 20630.
Order from OTS $1.00 63-31523

Trans. of [Akademiya Nauk SSSR]. Sevastopol'skaya Biologicheskaya Stantsiya. Trudy, 1960, v. 13, p. 275-292, 305-308.

DESCRIPTORS: *Radioactive isotopes, Ionization, Marine biology, Radioactivity, *Plankton, *Benthos, Aquatic animals, *Radiological contamination, Black Sea.

Vishnevskii, A. A. and Shraiber, M. I.
INJURIES FROM ATOMIC BOMB EXPLOSIONS. 6 Aug 63, 23p. JPRS: 20511.
Order from OTS $0.75 63-31464

Trans. of mono. Voenno-Polevaya Khirurgiya (Military) Field Surgery) Moscow, 1962, p. 45-58, 69-76, 122-125.

DESCRIPTORS: *Radiation injuries, *Nuclear explosion damage, *Chemical warfare injuries, Therapy, *First aid, *Blood transfusions, *Plasma substitutes, *Burns, *Pathology.

Contents:
Injuries from atomic weapons
Combined injuries
Combined injuries from atomic bomb explosions
Combined chemical injuries
Principles of first aid and treatment in combined chemical injuries
Transfusion of blood and blood substitutes
Radiation burns
Principles of treating radiation burns

Surgery

Gorizontov, P. D., Sbitneva, M. F., and Trushina, M. N.
THE PROBLEM OF TRANSPLANTATION OF HEMOPOIETIC TISSUE IN THE TREATMENT OF RADIATION INJURY. 6 Sep 63, 10p. 27 refs. JPRS: 20948.
Order from OTS $0.50 63-31688

Trans. of Patologicheskaya Fiziologiya i Eksperimental'naya Terapiya (USSR) 1963 [v. 7] no. 3, p. 15-20.

DESCRIPTORS: *Radiation injuries, *Hemopoietic system, *Transplantation, *Spleen, *Bone morrow, *Liver, Biomycin, Tissues (Biology), Cells (Biology).

It is shown that transplantation of homologous bone marrow and embryonic tissue of the liver proved to be of low efficacy in conditions of fatal radiation injuries, caused by the action of Co^{60} gamma-rays. Only a combination of transplantation with antibiotic therapy saved from 50 to 75 per cent of the experimental animals from death. Use of embryonic liver cells had a number of advantages over the bone marrow cells of adult rats and gave a greater percentage of rats' survival by the 30th day. However, at remote periods (by the 120th day) such a difference became less pronounced. On the basis of studying the urinary excretion of the so-called Dishe-positive substances the authors come to the conclusion that transplantation of hemopoietic tissue affects the recipient's DNA. (Author)

Gubler, E. V. and Zimina, E. P.
CHANGES OF ENERGY METABOLISM IN BURN SICKNESS. 27 Sep 63, 12p 20 refs JPRS: 21235.
Order from OTS $0.50 63-31833

Trans. of Sovetskaya Meditsina (USSR) 1963, v. 27, no. 7, p. 56-62.

DESCRIPTORS: *Metabolism, *Burns, Oxygen consumption.

In burn shock in the human being, basal metabolism and minute respiratory volume are frequently increased An increase of energy metabolism is characteristic also of the first 2-8 weeks following deep burns, and is apparently a part of the general metabolic reaction to burn, insuring an increased supply of energy for enhanced synthesis of the number of proteins. Subsequently, there is usually a normalization or reduction of energy metabolism, despite the continuation of widespread granulating wounds. This phenomenon may be regarded as an element in burn exhaustion, which is attended by both protein and energy deficits. In patients past middle age with superficial burns, both limited and widespread, there is frequently not an increase but rather a reduction of metabolism in response to the injury. This reaction is not observed in

patients past middle age in the case of deep burns. On the day following operation involving skin autotransplantation for deep burns, the level of basal metabolism remained the same as before operation. A study of the daily variations in energy metabolism in burn sickness considerably augment its characterization, as obtained by means of determinations of the basal metabolism. (Author)

Zoology

SMALL MAMMALS, AMPHIBIANS, AND REPTILES IN YUNNAN PROVINCE (CHINA). 12 Aug 63, 34p. 26 refs. JPRS: 20600.
Order from OTS $1.00 63-31509

Trans. of Moskovskoe Obshchestvo Ispytatelei Prirody. Byulleten'. Otdel Biologicheskii (USSR) 1963, v. [38](68) no. 2, p. 18-42.

DESCRIPTORS: *Mammals, *Amphibians, *Reptiles, Ecology, Biological environment, Geography, Plants (Botany).

Contents:
Zoogeographic and ecological observations on small mammals in Yunnan province, by A. G. Voronov
Materials on the fauna and on the biology of amphibians and reptiles in the tropical zone of Yunnan province, by A. G. Bannikov.

Antipova, O. P.
DATA ON THE FECUNDITY OF THE BELOMORSKII HERRING, tr. by Thomas R. Forsythe. Jun 59 [4]p
Order from OTS or SLA $1.10 60-13250

Trans. of [Gosudarstvennyi Institut Opytnoi Agronomii. Izvestiya] (USSR) [1929] v. 6, no. 3/4, p. 113-114.

DESCRIPTORS: Fishes, *Clupeidae, Reproduction, Marine biology,

Aronov, M. P.
STATISTICAL ANALYSIS OF THE DIFFERENTIATING ABILITY OF SOME BLACK-SEA FISH. 26 Aug 63, 8p. 13 refs. JPRS: 20794.
Order from OTS $0.50 63-31613

Trans. of [Akademiya Nauk SSSR]. Sevastopol'skaya Biologicheskaya Stantsiya. Trudy, 1961, v. 14, p. 286-291.

DESCRIPTORS: Statistical analysis, *Fishes, Black Sea, Reaction (Psychology), *Visual perception, Feeding, Conditional reflex.

Statistical analysis of data indicated that the rate at which feeding conditioned motor reflexes are formed in response to visual stimuli in fish depends above all on the strength and kind of light signal. In reinforcement of conditioned reflexes, differences in the action of stimuli of different strength and kind are somewhat equalized. No direct relationship was found between the rate at which conditioned reflexes are formed and the extent of visual analyzer development. Significant differences were observed in differentiation of light stimuli by ocean burbot and gloss, which agrees with the differences in the extent of their visual analyzer development and the importance of this in the life-activity of these fish. (Author)

Bychovskii, B. E.
HOMOGENETIC TREMATODES; THEIR SYSTEMATICS AND PHYLOGENY, tr. by P. C. Oustinoff. 1961, 1v.
Order from AIBS

Trans. of unidentified Russian mono., n.p., n.d.

DESCRIPTORS: *Trematodes, History, Platyhelminths, Worms.

Gorbunova, N. N.
LARVAE OF MACKEREL-LIKE FISH (PISCES, SCOMBRIFORMES) FROM THE INDIAN OCEAN. 21 June 63 [37]p. 21 refs. JPRS: 19784.
Order from OTS $1.00 63-31088

Trans. of [Akademiya Nauk SSSR]. Institut Okeanologii. Trudy, 1963, v. 62, p. 68-95.

DESCRIPTORS: *Rhythm (Biology), Morphology, Taxonomy, *Fishes, Indian Ocean, Marine biology, *Scombridae.

The spawning of most species of mackerel-like fish living in the waters of the Indian Ocean is very extended. Judging from the small sizes of the larvae we caught it can be suggested however that spawning of T. albacora, P. obesus, T. germo, K. pelamis, E. alleteratus, E. affinis, A. thazard, Rastrelliger sp., G. unicolor, S. orientalis, and Scomberomorus sp. are limited to the autumnwinter period. The largest numbers of mackerel-like fish larvae during the period of our collections, from October to April, were found in the Gulf of Aden and in the western part of the Indian Ocean. Tuna larvae are absent in the Arabian Sea, which is evidently related to its hydrochemical conditions. Larvae of mackerel-like tunas (order Auxis) and of small tunas (order Euthynnus) are found mainly in near-shore regions, while the larvae of yellowfin tuna (T. albacora) and the striped tuna (K. pelamis) -- in the open waters, at a considerable distance from the shore. (Author)

Isaev, A.
ROLE OF YOUTH IN CREATING AN ABUNDANCE OF FISH. 12 Aug 63, 4p. JPRS: 20598.
Order from OTS $0.50 63-31507

Trans. of Rybovodstvo i Rybolovstvo (USSR) 1963 [v. 6] no. 2, p. 2-3.

DESCRIPTORS: *Fishes, Production, Lakes, Fisheries, Labor.

Karpevich, A. F.
ACCLIMATIZATION OF FISH AND OF INVERTEBRATES. 6 Aug 63, 26p. 39 refs. JPRS: 20499
Order from OTS $0.75 63-31455

Trans. of Zoologicheskii Zhurnal (USSR) 1962, v. 41, no. 7, p. 969-985.

DESCRIPTORS: *Acclimatization, Fishes, Marine biology, *Aquatic animals, Ecology.

A critical survey of Soviet and Western studies dealing with the transplantation of economically important marine animals.

Krivosheev, V. G.
MORPHOLOGICAL CHARACTERISTICS OF MICROTUS HYPERBOREUS VINOGR. 13 Aug 63, 16p. 9 refs. JPRS: 20627.
Order from OTS $0.50 63-31520

Trans. of Zoologicheskii Zhurnal (USSR) 1963, v. 42, no. 5, p. 752-762.

DESCRIPTORS: *Morphology (Biology), *Mice, Rodents, Distribution, Toxonomy, Ecology.

A study was made of the taxonomic features and diagnostics, geographical distribution, features of habitation, and ecological features of the North Siberian meadow mouse. Comparison is made with the closely related species, Microtus middendorfii Poljakov.

Naumov, N. P., Nikol'skii, G. V., and Mikheev, A. V.
SOME GENERAL REGULARITIES OF THE DYNAMICS OF ANIMAL POPULATIONS [AND] REGULARITIES IN THE DISTRIBUTION OF HIBERNATION PLACES AND MIGRATION ROUTES IN BIRD POPULATIONS. 13 Aug 63, 38p. 57 refs. JPRS: 20608.
Order from OTS $1.00 63-31510

Trans. of Zoologicheskii Zhurnal (USSR) 1962, v. 41, no. 8, p. 1132-1141, 1210-1219.

DESCRIPTORS: Dynamics, *Animals, *Birds, Populations, Distribution, Geography, *Hibernation, Ecology.

Rabinerson, A. I.
CONCERNING THE SYSTEMATIC POSITION OF THE WHITE SEA HERRING, tr. by Thomas R. Forsythe. Jun 59 [4]p. 1 ref.
Order from OTS or SLA $1.10 60-13244

Trans. of [Gosudarstvennyi Institut Opytnoi Agronomii Izvestiya] (USSR) 1923, v. 1, no. 3, p. 106-107.

DESCRIPTORS: Fishes, Taxonomy, *Clupeidae, *White Sea.

Shuntov, V. P.
PECULIARITIES OF ICHTHYOFAUNA DISTRIBUTION IN THE SOUTHEAST BERING SEA. 13 Aug 63, 18p. 15 refs. JPRS: 20623.
Order from OTS $0.50 63-31519

Trans. of Zoologicheskii Zhurnal (USSR) 1963, v. 42, no. 5, p. 704-715.

DESCRIPTORS: *Fishes, Marine biology, Distribution, Aquatic animals, *Bering Sea.

Sukhoverkhov, F. and Pisarenkova, A.
COMPARATIVE PRODUCTIVITIES OF CTENOPHARYNGODON AND HYPOPHTHALMICHTHYS. 12 Aug 63, 10p. JPRS: 20599.
Order from OTS $0.50 63-31508

Trans. of Rybovodstvo i Rybolobstvo (USSR) 1963 [v. 6] no. 2, p. 13-16.

DESCRIPTORS: *Fishes, Adaptation (Physiology), *Acclimatization, Growth, Reproduction.

Tsendsuren, A.
ENTOMOLOGICAL RESEARCH IN THE MONGOLIAN PEOPLES REPUBLIC. 19 Aug 63, 8p. 38 refs. JPRS: 20688.
Order from OTS $0.50 63-31558

Trans. of #Entomologicheskoe Obozrenie (USSR) 1963, v. 42, no. 1, p. 219-225.

DESCRIPTORS: *Insects, *Mongolia, Agriculture.

CHEMISTRY

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 256 (CHEMISTRY SERIES). 6 Aug 63, 7p. JPRS: 20507.
Order from OTS $0.50 63-31461

Abstract trans. of Magyar Kemiai Folyoirat (Hungary) 1963, v. 69, no. 5, p. 191-236.

DESCRIPTORS: *Abstracts, Bibliographies, *Chemistry, Physical chemistry, *Radiation chemistry, Reaction kinetics, *Radiochemistry, Catalysts, *Electrochemistry, Biochemistry, Plastics, Chemical analysis.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 263 (CHEMISTRY SERIES). 9 Aug 63, 11p. JPRS: 20573.
Order from OTS $0.50 63-31491

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia.

DESCRIPTORS: *Abstracts, Bibliographies, *Chemistry *Chemical analysis, *Electrochemistry, Molecular structure, Crystal structure, Rubber, Chemical engineering, Spectroscopy, Pharmacology, Plastics, Alloys, Radiochemistry.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 276 (CHEMISTRY SERIES). 22 Aug 63, 8p. JPRS: 20776.
Order from OTS $0.50 63-31605

Abstract trans. of Roczniki Chemii (Poland) 1963, v. 37, no. 6, p. 607-653, 659-661, 663-669, 671-681, 683-697.

DESCRIPTORS: *Abstracts, Bibliographies, *Chemistry, *Silanes, Chemical reactions, *Complex compounds, *Biochemistry, Molecular structure, Catalysis, Photochemistry, *Antineoplastic agents, Synthesis (Chemistry), *Amino acids.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 286 (CHEMISTRY SERIES). 5 Sep 63, 27p. JPRS: 20934.
Order from OTS $0.75 63-31679

Consists of abstracts of articles from the scientific and technical journals of East Germany.

DESCRIPTORS: *Abstracts, Bibliographies, *Chemistry, *Silicates, *Ceramic materials, *Glass, *Refractory materials, Minerals, Chemical reactions, Organic compounds, *Physical chemistry, Synthesis (Chemistry), Molecular structure, *Complex compounds, Metals, *Spectroscopy, *Chemical analysis, Crystals.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 297 (CHEMISTRY SERIES). 16 Sep 63, 6p. JPRS: 21093.
Order from OTS $0.50 63-31768

Abstract trans. of Revista de Chimie (Rumania) 1963, v. 14, no. 6, p. 315-353.

DESCRIPTORS: *Abstracts, Bibliographies, Semiconductors, *Minerals, *Plastics, Dyes, *Chemical analysis, *Drugs, Fungicides.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 305 (CHEMISTRY SERIES). 26 Sep 63, 22p JPRS: 21225.
Order from OTS $0.75 63-31877

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia and Poland.

DESCRIPTORS: Abstracts, Bibliographies, *Chemistry, Culture media, *Chemical analysis, Volumetric analysis, Colormetric analysis, *Polarographic analysis, Complex compounds, *Silanes, Plastics, *Biochemistry, Synthesis (Chemistry), *Drugs, Spectroscopy, Ceramic materials, *Physical chemistry, Pesticides.

PROCESS AND APPARATUS FOR THE EXTRACTION OF OIL CONTAINED IN THE LIVER OF FISHES. [1963] 2p (figs. omitted).
Order from OTS or SLA $1.10 63-18200

Trans. of French patent 821,791, appl. 13 May 37, granted 13 Dec 37, by Aktiebolaget Separator.

DESCRIPTORS: Separation, *Fish oils, Fishes, Liver, Manufacturing methods.

PROCESS FOR RECOVERY OF CONDENSING AGENTS. [8 Apr 62] 6p
Order from OTS or SLA $1.10 63-18201

Trans. of French patent 827,469, appl. 4 Oct 37, pub. 27 Apr 38, by Standard Oil Develop.

DESCRIPTORS: *Catalysts, *Boron compounds, *Fluorides, Condensation reactions, Ammonia, Recovery, Separation, Complex compounds, *Polymerization.

REORGANIZATION STUDY OF CHEMICAL INSTITUTES. 26 Aug 63, 2p. JPRS: 20803.
Order from OTS $0.50 63-31620

Trans. of Ekonomska Politika (Yugoslavia) 1963, v. 12, no. 580, p. 565.

DESCRIPTORS: *Scientific organizations, Chemistry, *Chemical industry, Economics.

Acero Saez, Eduardo.
THE PRESENT DAY STATE OF THE PRODUCTION OF TARTARIC ACID FROM RESIDUAL TARTARIC LEES [PT. I]. [1963] 18p (figs formulae omitted)
Order from SLA $1.60 63-18874

Trans. of Ion (Spain) 1955, v. 15, p. 612-617.

DESCRIPTORS: *Tartrates, Production, *Wines, *Wastes (Industrial), Ion exchange, Chemical properties, Chemical analysis, Manufacturing methods.

Acero Saez, Eduardo.
THE PRESENT DAY STATE OF THE PRODUCTION OF TARTARIC ACID FROM RESIDUAL TARTARIC LEES, PT. II. [1963] 32p (figs formulae omitted)
Order from SLA $3.60 63-18880

Trans. of Ion (Spain) 1955, v. 15, p. 745-755.

DESCRIPTORS: *Calcium compounds, *Tartrates, Production, Manufacturing methods, *Ion exchange, Chemical analysis, *Wines, *Wastes (Industrial).

(See also 63-18874)

Ermolenko, I. N. and Kaputs'kii, F. N.
L'EMPLOI DES OXYDES D'AZOTE DANS LA PRÉPARATION DES CELLULOSES MODIFIÉES (Nitrogen Oxide-Induced Directed Synthesis of Modified Cellulose). 4p 4 refs FR-2095.
Order from OTS, ETC or CNRS $0.80 62-26954

Trans. in French of Vysokomdekulyarnye Soedineniya (USSR) 1960, v. 2, no. 4, p. 626.

DESCRIPTORS: Cellulose chemistry, *Nitrogen, Oxides, *Phosphorus compounds, Phosphoric acids, *Cellulose.

Ferenets, V. A.
APPARATUS FOR DETERMINATION OF THE AMOUNT OF PARAMAGNETIC GAS (OXYGEN) IN A GAS-AIR MIXTURE, tr. by K. Rasmussen. 5p DTC-27.
Order from OTS, ETC or DTC $0.80 63-26961

Unedited draft trans. of Russian patent 127474.

DESCRIPTORS: *Gas analysis, *Oxygen, Mixtures, Air, *Paramagnetic materials.

Goodman, I.
RECENT ADVANCES IN THE CHEMISTRY OF TERYLENE AND RELATED POLYESTERS. [1963] 10p.
Order from ATS $10.75 ATS-95Q70G

Trans. of Angew[andte] Chem[ie] (West Germany) 1962, v. 74, no. 16, p. 606-612.

DESCRIPTORS: *Polyester plastics, Polymers, Chemistry.

Kisielow, W.
PÉTROLES POLONAIS (Poland-Petroleum). 14p 9 refs
Order from OTS, ETC or CNRS $0.80 62-26990

Trans. in French of Nafta (Poland) 1959, v. 15, no. 7/8, p. 191-193.

DESCRIPTORS: *Petroleum, Chemical analysis, Density, Sulfur, Resins, Waxes, Inorganic substances, Naphthalenes.

Klenkova, N. J. and Kulakova, O. M.
ESTÉRIFICATION DE LA CELLULOSE FAIBLEMENT OXYÉTHYLÉE (Esterification of Weakly Hydroxy Ethylated Cellulose). 13p 12 refs
Order from OTS, ETC or CNRS $0.80 62-26987

Trans. in French of #Zhurnal Prikladnoi Khimii (USSR) 1959, [v. 32] no. 3, p. 680-686.
Another trans. is available in English from OTS or SLA $1.10 as 61-20635 [1961] 9p.

DESCRIPTORS: *Cellulose chemistry, Threads, Ethylene oxide, Methyl radicals, Ethyl radicals, Hydroxides, Ethers, Butyl radicals.

Kryukov, P. A.
PERSPECTIVES DE DÉVELOPPEMENT DES METHODES DE RECHERCHES CHIMIQUES PAR VOIE HUMIDE (Development of Hydrochemical Methods of Investigation). 7p
Order from OTS, ETC or CNRS $0.80 62-26999

Trans. in French of Gidrokhimicheskie Materialy (USSR) 1955, v. 24, p. 6-9.

DESCRIPTORS: *Chemical analysis, Design, Growth.

Nishigaki, S.
UTILISATION DE L'AZOTE LOURD ET DU CARBONE LOURD COMME INDICATEURS CHIMIQUES (Heavy Nitrogen and Heavy Carbon as Chemical Indicators). 27p FX-1028.
Order from OTS, ETC or CNRS $1.01 62-26958

Trans. in French of Kagaku to Kogyo (Tokyo) (Japan) 1960, v. 13, no. 5, p. 67ff.

DESCRIPTORS: *Labeled substances, Radioactive isotopes, *Nitrogen, *Carbon.

Ostroverkhov, V. G. and Shilov, E. A.
ÉTUDE SUR LA THÉORIE DES ADDITIONS NUCLÉOPHILES. VII. DE LA POSSIBILITÉ DE RÉACTIONS D'ADDITION SOUS L'ACTION D'AGENTS NUCLÉOPHILES FAIBLES SUR DES MOLÉCULES À LIAISON DOUBLE (Issledovanie po Teorii Nukleofil'nykh pri Soedinenii VII) (Theory of Nucleophilic additions. VII. Possibility of addition in the Action of Weak Nucleophiles on Molecules with double Bonds). 9p (foreign text included) 10 refs FR-2332.
Order from OTS, ETC or CNRS $0.80 62-26428

Trans. in French of Ukrainskii Khimicheskii Zhurnal (USSR) 1961, v. 27, no. 2, p. 209-212.

DESCRIPTORS: Molecules, Chemical bonds, *Addition reactions.

Analytical Chemistry

Abe, Y., Yamada, Y., and Harada, Y.
RAPID DETERMINATION OF COMPOSITION OF (STEELMAKING) SLAGS BY SPECTRO-CHEMICAL ANALYSIS. Aug/Sep 63, 800words
Order from HB $3.30 HB-6058

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1517-1519.

DESCRIPTORS: *Slags, Chemical analysis, Steel industry, Electric furnaces, Spectroscopy.

Bal'yan, S. V.
DECOMPOSITION OF DOWTHERM "A" UNDER HEATING TO 550 DEG [Razlozhenie Douterma "A" pri Podogreve do 550°]. [1963] 8p (figs omitted)
Order from OTS or SLA $1.10 63-18535

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1945, v. 18 [no. 7/8] p. 420-424.
Another trans. is available from ATS as ATS-RJ54, 6p.

DESCRIPTORS: *Diphenyl, *Oxides, Phenyl radicals, *Pyrolysis, Eutectics, Physical properties, Chemical analysis.

Eschle, K.
FILTRATION AND POROSITY IN CIGARETTE FILTERS. [1963] 9p 12refs
Order from SLA $1.10 63-20127

Trans. of Mitt[eilungen aus dem] Geb[iete der] Lebensmitteluntersuch[ungen und] Hyg[iene] (Switzerland) 1960, v. 51, no. 1, p. 69-74.
Other translations are available from K-H $11.25 as K-H-10402-c, 1962, 9p and from SLA $1.10 as 63-16892 [1962] 9p.

DESCRIPTORS: *Cigaretts, *Smokes, Tobacco, *Filters (Fluid), *Porosity.

Of all properties of cigarette filters and of tobacco smoke examined, porosity seems to give the most information about the mechanism of filtration. Porosity is best described in terms of structure volume, pore volume, interstitial volume, and bulk volume. These are quantities which can be easily determined from the true density, the apparent density and the bulk density. For typical specimens of acetate fiber filters a structure volume of 22% was thus found, and for those of paper layer filters, a structure volume of 29%. Starting from the kinetic idea of filtration it seems that neither the chemistry nor the microstructure of filter materials are fundamental for the precipitation of smoke. The filter efficiency is essentially determined by the surface and structure volume of filter materials. Improving the degree of precipitation could most easily be realized by increasing the filter length-which is the same as increasing its surface. According to current ideas a filter selectivity does not exist. (Author)

Ganti, Tibor and Novak, Ervin.
GENERAL METHOD FOR PAPER DEVELOPMENT IN PAPER CHROMATOGRAPHY. I. THE DETECTION OF INORGANIC IONS. [1963] 7p (tables refs omitted)
Order from SLA $1.10 63-18873

Trans. of Magyar Kemiai Folyoirat (Hungary) 1962, v. 68 [no. 7] p. 293-296.

DESCRIPTORS: *Inorganic substances, Detection, *Paper chromatography, Chromatographic analysis, Colors, Reagents, Ions, Chemical reactions.

The application of a new developing agent in the detection of inorganic cations by paper chromatography is described. The dry chromatogram is sprayed by 0.5% benzidine dissolved in glacial acetic acid, partially dried and then exposed to furfural vapor. The filter paper develops an intense purple color, the cations are indicated by light-colored, white or colored spots. The method has a wide spectrum and is generally applicable to the detection of cations. (Author)

Gladshtein, B. M.
NOUVELLE MÉTHODE DE RECHERCHE QUALITATIVE DE CARBONE (New Method for Determining Carbon). 4p
Order from OTS, ETC or CNRS $0.80 62-26931

Trans. in French of #Zhurnal Analiticheskoi Khimii (USSR) 1956, v. 11, no. 1, p. 114.

DESCRIPTORS: *Organic compounds, *Carbon, *Qualitative analysis, Colorimetric analysis, Ammonium compounds, Chlorides, Sodium, Potassium.

Gomiscek, S.
CONTRIBUTION AU DOSAGE POLAROGRAPHIQUE DU PLOMB DANS LES MINÉRAIS DE BARYUM ET LEURS PRODUITS DE FLOTTATION (The Polarographic Determination of Lead in Barite Ores and their Flotation Products). 14p. 10 refs.
Order from OTS, ETC or CNRS $0.80 62-26970

Trans. in French of Rudersko Metalewski Zbornik (Czechoslovakia) 1957.

DESCRIPTORS: *Barium compounds, *Minerals, Flotation, *Polarographic analysis, *Lead, *Ores (Metal sources).

Gurin, P. A.
THE POLAROGRAPHIC DETERMINATION OF INDIUM, tr. by L. Mote. 17p. 11 refs. MTWL-1134.
Order from OTS or ETC $0.80 63-26587

Trans. of Russian language mono. Moscow, 1961, p. 41-46.

DESCRIPTORS: *Indium, *Polarographic analysis, Processing, Separation, Iron, Lead.

Jankovsky, J.
DOSAGE COMPLEXOMÉTRIQUE (CHÉLATOMÉTRIE). XXVI. DÉTERMINATION COMPLEXOMÉTRIQUE DE L'ÉTAIN (Complexometric Titrations (Chelatometry). XXVI. Determination of Tin). 8p 3 refs FX-343.
Order from OTS, ETC or CNRS $0.80 62-26962

Trans. in French of Chemicke Listy (Czechoslovakia) 1957, v. 51, p. 373-376.

DESCRIPTORS: *Tin, *Chelate compounds, Determination, Pyrocatechol, Sodium compounds, Acetates, Zinc compounds, Salts.

Kato, E.
ANALYSIS OF HYDROGEN IN CAST IRON BY THE VACUUM FUSION METHOD. Aug/Sep 63, 1050words
Order from HB $3.65 HB-6060

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 641-643.

DESCRIPTORS: *Iron alloys, *Castings, Fused materials, *Hydrogen, Chemical analysis, Recovery, *Vacuum apparatus.

Klimova, V. A. and Zabrodina, K. S.
MICRODOSAGE DES DÉRIVES NITRES SATURES PRIMAIRES ET SECONDAIRES (Mikroopredelenie p rvichnykh i vtorichnykh predel'nykh nitrosoedineniya) (Microdetermination of primary and secondary satuated nitro compounds). 6p (foreign text included) 1 ref FR-2103.
Order from OTS, ETC or CNRS $0.80 62-26416

Trans. in French of #Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1961, no. 1, p. 176-177.

DESCRIPTORS: *Nitrogen compounds, Chemical analysis, *Microanalysis.

Kopteva, Z. F.
DOSAGE DU CALCIUM ET DU MAGNÉSIUM DANS UN EXTRAIT AQUEUX (PRÉPARÉ À PARTIR D'UN ÉCHANTILLON DU SOL) PAR TITRAGE DANS UNE SEULE SOLUTION (Determining Calcium and Magnesium in Water Extract by Titrating these in One Solution). 7p 2 refs
Order from OTS, ETC or CNRS $0.80 62-26944

Trans. in French of [Moskovskaya] sel'skokhozyaistvennaya Akademiya. Izvestiya. (USSR) 1956, no. 2(12), p. 233-235.

DESCRIPTORS: *Calcium, *Magnesium, *Titration, Hydrology, Solvent extraction, Water, Ammonium compounds, Oxalates, Sodium, Arsenic compounds, Permanganates, Potassium compounds, Iodides.

Kotlyar, E. E. and Nazarchuk, T. N.
DOSAGE DU BORE LIBRE DANS LE CARBURE DE BORE, LE NITRURE DE BORE ET LES ALLIAGES À BASE ET CES CORPS (Determination of Free Boron in Boron Carbide, Nitride and their Alloys). 11p 5 refs FR-609.
Order from OTS, ETC or CNRS $0.80 62-26884

Trans. in French of #Zhurnal Analiticheskoi Khimii (USSR) 1960, no. 15, p. 207-210.
Another trans. is available in English from ATS $7.50 as ATS-28M46R [1960] 5p.

DESCRIPTORS: *Boron compounds, *Carbides, *Nitrides, *Boron, Quantitative analysis, Oxidation, Nitric acid, Hydroperoxides.

Kreshkov, A. P., Bykova, L. N., and Pevsner, I. D.
THE ANALYSIS OF DIAMINES AND THEIR MIXTURES BY TITRATION IN NONAQUEOUS SOLVENTS. 26 Jun 63 [7p] 8refs
Order from OTS or SLA $1.10 63-18890

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1963, v. 150 [no. 1] p. 99-101.

DESCRIPTORS: *Amines, Quantitative analysis, Chemical analysis, Solvents, Polyamide plastics.

Motojima, K., Hashitani, H., and Katsuyama, K.
ESTIMATION OF BERYLLIUM CONTAINED IN MAGNOX. 6p 2 refs MTWL-1119.
Order from OTS or ETC $0.85 63-26206

Trans. of Bunseki Kagaku (Japan) 1960, v. 9, no. 7, p. 628-629.

DESCRIPTORS: *Beryllium, Chemical analysis, Magnesium alloys, Nuclear reactors.

Okac, A. and Bartusek, M.
DETERMINATION OF NICKEL AND MANGANESE WITH FORMALDOXINE. [1963] 7p
Order from K-H $7.00 K-H 10895 a

Trans. of Zeitschrift fllr Analytische Chemie (West Germany) 1960, v. 178, p. 198-201.

DESCRIPTORS: *Manganese, *Nickel, Chemical analysis.

Okac, A. and Pech, J.
LA RÉACTION COLORÉE DES ALCALINO-TERREUX (A Color Test for Alkaline Earths). 8p 10 refs
Order from OTS, ETC or CNRS $0.80 62-26948

Trans. in French of [Sbornik Chekhoslovatskykh Khimicheskykh Rabot, 1948, v. 13, p. 400-406.

DESCRIPTORS: *Colorimetric analysis, Pyrocatechol, Carbonic acids, *Alkaline earth compounds, Hydroxides.

Otaki, H. and others.
STUDIES ON THE IDENTIFICATION OF NON-METALLIC INCLUSIONS WITH AN ELECTRON-PROBE MICROANALYZER. Aug/Sep 63, 1000words.
Order from HB $3.50 HB-6062

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 418-419.

DESCRIPTORS: Microanalysis, Probes (Electromagnetic), *Inclusions (Metallurgy), Identification, *Steel, Quantitative analysis.

Portnov, M. A. and Povelkina, V. P.
ANALYSE SYSTÉMATIQUE DES CATIONS PAR LA MÉTHODE POLAROGRAPHIQUE. II. CONDITIONS DU DOSAGE DES ÉLÉMENTS DU SOUS-GROUPE DE L'ARSÉNIC (Systematic Polarographic Analysis of Cations. II. Conditions for the Analysis of the Arsenic Subgroup). 11p 4 refs
Order from OTS, ETC or CNRS $0.80 62-26947

Trans. in French from Zhurnal Analiticheskoi Khimii (USSR) 1948, v. 3, no. 2.

DESCRIPTORS: *Polarographic analysis, Quantitative analysis, *Antimony, *Tin, *Arsenic, Alcohols, Sulfuric acid, Solution.

Salmoni, Renato.
THE DETERMINATION OF FREE LEAD IN RED LEAD AND LITHARGE. [1963] 4p
Order from SLA $1.10 63-18690

Trans. of Farben-Zeitung (Germany) 1938, v. 43, p. 670.

DESCRIPTORS: *Lead compounds, Oxides, Chemical analysis.

Takao, Z. and others.
(SPECTROGRAPHIC) DETERMINATION OF LANTHANUM AND YTTRIUM IN AUSTENITIC STEEL.
Aug/Sep 63, 900words
Order from HB $3.40 HB-6061

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 1513-1514.

DESCRIPTORS: Austenite, Steel, *Lanthanum, and *Yttrium, *Stainless steel, Spectroscopy.

Terent'ev, A. P. and Demidova, A. A.
A QUALITATIVE REACTION FOR DIOLEFINS. [1962] 2p. 5 refs.
Order from OTS or SLA $1.10 62-14124

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1941, no. 1, p. 137-138.
Also available from OTS or SLA $2.60 in 61-20795 [1961] 25p.

DESCRIPTORS: *Ethylenes, Chemical analysis, *Chemical indicators, *Azo radicals, *Dienes, *Anilines, *Nitro radicals, Amines, Butadienes, Gases, Chemical bonds

Terent'ev, A. P., Fedoseev, P. N., and Ivashova, N. P.
THE USE OF ALKALINE EARTH METALS IN ORGANIC ELEMENTAL ANALYSIS. 21 Jun 63 [9p] 17refs
Order from OTS or SLA $1.10 63-18917

Trans. of Izvest[iya] Vysshikh Ucheb[nykh] Zavedenii. Khim[iya] i Khim[icheskaya] Tekhnol[ogiya] (USSR) 1959, v. 2, no. 1, p. 54-58.

DESCRIPTORS: Chemical analysis, Organic compounds, *Nitrogen, *Sulfur, *Halogens, *Carbon, *Calcium, *Magnesium, *Alkaline earth metals, Quantitative analysis.

The purpose of the paper is to describe methods for the qualitative determination of nitrogen, sulfur, and halogens in organic compounds by heating with metallic magnesium or calcium, and for the determination of carbon by using metallic calcium for decomposition of the sample. Some characteristics of the calcium and magnesium methods for the quantitative determination of elements in organic compounds are noted. (Author)

Terent'ev, A. P., Luskina, B. M., and Syavtsillo, S. V.
DETERMINATION OF CARBON IMPURITIES IN SILICON-COPPER ALLOYS. 27 Jun 63 [6p] 4refs
Order from OTS or SLA $1.10 63-18892

Trans. of Plasticheskie Massy (USSR) 1960, no. 5, p. 65-66.

DESCRIPTORS: *Silicon alloys, *Copper alloys, *Carbon, *Impurities, Chemical analysis, Quantitative analysis, *Silanes, *Catalysts.

Terent'ev, A. P., Obtemperanskaya, S. I., and Dolgikh, V. A.
QUALITATIVE DETERMINATION OF SULFUR, HALOGENS, CARBON, PHOSPHORUS, ARSENIC, ANTIMONY, AND BISMUTH IN ORGANIC COMPOUNDS WITH MAGNESIUM NITRIDE. 27 Jun 63 [4p] 1ref
Order from OTS or SLA $1.10 63-18891

Trans. of Nauch[nye] Doklady Vysshei Shkoly. Khim[iya] i Khim[icheskaya] Tekhnol[ogiya] (USSR) 1959, no. 2, p. 305-306.

DESCRIPTORS: Organic compounds, Chemical analysis, *Sulfur, *Halogens, *Carbon, *Phosphorus, *Arsenic, *Antimony, *Bismuth, *Magnesium compounds, *Nitrides, Calcination, Reduction (Chemistry).

The determination is based on the reductive decomposition of the organic compound with magnesium nitride at 650°-800°. The halogen forms magnesium halide; sulfur is partly liberated as hydrogen sulfide and partly converted to magnesium sulfide; arsenic, antimony, and bismuth are partly liberated in the elemental state on the walls of the test tube and partly form arsenide, antimonide, and bismuthide; phosphorus gives magnesium phosphide. On decomposition of the residue with water (after calcination) and acidification of the solution, carbon is liberated as coal or as carbon black. The proposed method makes possible the simultaneous detection of the above elements in a substance or mixture of substances.

Ting, Ching-ch'un, Li, Wen-hao and others.
CHROMATOGRAPHY WITH A HYDROGEN-FLAME IONIZATION DETECTOR. Translations on Communist China's Science and Technology No. 44. 29 July 63, 16p. 7 refs. JPRS: 20362.
Order from OTS $0.50 63-31387

Trans. of Hua Hsüeh T'ung Pao (Chinese People's Republic) 1962, no. 12, p. 41-47.

DESCRIPTORS: *Chromatographic analysis, Hydrogen, Flames, *Ionization, *Gas chromatography, Gas analysis.

Results are presented concerning operational tests of a hydrogen-flame, ionization detector constructed from Chinese produced components.

Überreiter, K. and Sorge, C.
TWO COLORIMETRIC METHODS. Pt. 1 [of] Quantitative Determination of Organic Peroxides. [1963] 13p
Order from K-H $13.00 K-H 9852

Trans. of Angewandte Chemie (West Germany) 1956, v. 68, no. 10, p. 352-354.
Another trans. is available from SLA $1.10 as 62-18946 [1962] 10p.

DESCRIPTORS: Organic compounds, *Peroxides, Quantitative analysis, *Colorimetry, Organic solvents, Acetic acids, Benzenes, Chemical indicators, *Methylene blue, Amines.

For abstract see Technical Translations 10:25, 1963.

Waltz, P., Häusermann, M., and Nyari, E.
PHOTOMETRIC DETERMINATION OF NICOTINE IN TOBACCO AND TOBACCO SMOKE. [1962] 10p.
Order from K-H $12.50 K-H 9249 c

Trans. of Mitt[eilungen aus dem] Gebiete [der] Lebensm[itteiluntersuchungen] u[nd] Hyg[iene] (Switzerland) 1959, v. 50, p. 159-165.

DESCRIPTORS: Photometry, *Nicotine, *Tobacco, Cigarettes, Smokes.

Weibel, Max.
THE DETERMINATION OF ALUMINUM IN THE CHEMICAL ANALYSIS OF SILICATE. [1963] 9p
Order from K-H $9.00 K-H 11933

Trans. of Zeitschrift [für] Analytische Chemie (West Germany) [1962] v. 184, p. 322-327.

DESCRIPTORS: *Silicates, Chemical analysis, *Aluminum.

Wickbold, R.
ANALYTIC-TECHNICAL INVESTIGATIONS-NEW RAPID METHOD OF HALOGEN DETERMINATION IN ORGANIC SUBSTANCES. [1963] 11p
Order from K-H $11.00 K-H 8197

Trans. of Angewandte Chemie (West Germany) 1952 [v. 64] p. 133-135.

DESCRIPTORS: *Organic compounds, *Halogens, Chemical analysis.

Inorganic Chemistry

Akira, N.
MÉTHODE DE FABRICATION DE MONOXYDE DE CARBONE OU D'UN MÉLANGE GAZEUX D'HYDROGÈNE ET DE MONOXYDE DE CARBONE À PARTIR DE GAZ CARBONIQUE ET DE SULFURE D'HYDROGÈNE (Manufacture of Carbon Monoxide or Gaseous Mixture of Hydrogen and Carbon Monoxide from Carbon Dioxide and Hydrogen Sulfide). 5p
Order from OTS, ETC or CNRS $0.80 62-26942

Trans. in French of Japanese patent application 17.6281, filed 4 July 41, pub. 23 Oct. 47.

DESCRIPTORS: *Carbon compounds, Hydrogen compounds, Sulfides, Dioxides, *Monoxides, *Hydrogen, Catalysts, Carbon, Iron compounds, Oxides, Carbon dioxide.

Ans, J. d' and Katz, W.
$Mg(OH)_2$ SOLUBILITY, pH VALUES AND BUFFERING IN THE SYSTEM H_2O-$MgCl_2$-$Mg(OH)_2$ (Magnesiumhydroxyd-Löslichkeiten, pH-Zahlen und Pufferung im System H_2O-$MgCl_2$-$Mg(OH)_2$). [1963] [19]p. (foreign text included) 6 refs.
Order from SLA $1.60 63-18133

Trans. of Kali, Verwandte Salze und Erdöl (Germany) 1941 [v. 35] no. 3, p. 37-41.

DESCRIPTORS: *Magnesium compounds, *Chlorides, *Hydroxides, Water, Solubility, Hydrogen ion concentration, Buffers.

Benard, Jacques.
RESEARCH ON THE VARIATIONS OF COMPOSITION OF FERROUS OXIDE. Paper from International Congress on Reactions in the Solid State, Paris, 1949. [1963] 19p 13refs
Order from SLA $1.60 63-16858

Trans. of [Société Chimique de France. Bulletin] 1949, P. D110-D116.

DESCRIPTORS: *Iron compounds, *Oxides, Phase studies, Chemical equilibrium, Crystallization, *Ores (Metal sources).

Boreskov, G. K.
BASES THÉORIQUES D 'INTENSIFICATION DE LA FABRICATION D'ACIDE SULFURIQUE PAR CONTRACT (Theoretical Foundation of the Promotion of the Manufacture of Sulfuric Acid by the Contact Process). 25p.
Order from OTS, ETC or CNRS $0.98 62-26998

Trans. in French of unidentified Russian language article, n.d.

DESCRIPTORS: *Sulfuric acid, Production, Growth, Vanadium, *Catalysts, Mechanical properties, *Fluidized solids.

Chaudron, G. and Benard, J[acques].
STUDY OF THE PROCESS OF DECOMPOSITION OF FERROUS OXIDE [Etude de Procesus de Decomposition de Protoxyde de Fer]. Paper from International [Congress] on Reactions in the Solid State. [1963] 6p 6refs
Order from SLA $1.10 63-16857

Trans. of [Société Chimique de France. Bulletin] 1949, p. D117-D119.

DESCRIPTORS: *Iron compounds, *Oxides, Decomposition, Reaction kinetics, Thermochemistry, Crystallization, *Ores (Metal sources).

Cherkashyn, E. E., Gladyshevs'kyi, E. I., and Krip'yakevich, P. I.
COMPOUNDS OF TRANSITION METALS AND BERYLLIUM, SILICON, GERMANIUM AND TIN, 18 Mar 59, 5p 5refs
Contract AT(11-1)-171.
Order from OTS or SLA $1.10 DC-59-3-176

Trans. of Lvov U. Dopovidi ta Povidomlennya (USSR) 1957, v. 7, pt. 3, p. 180-183.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 as 59-10890 [1958] 4p.

DESCRIPTORS: *Transition elements, *Intermetallic compounds, Beryllium compounds, Silicon compounds, Germanium compounds, Tin compounds.

Dominikiewicz, M.
ÉTUDES SUR LE MÉTAPHOSPHATE DE SODIUM, NOTE. (Sodium Metaphosphate). 7p.
Order from OTS, ETC or CNRS $0.80 62-26945

Trans. in French of Academie Polonaise des Sciences et des Lettres. Classe des Sciences Mathématiques et Naturelles. Bulletin, Ser. A, 1950, no. 5/6, p. 151-156.

DESCRIPTORS: *Sodium compounds, *Phosphates, Molecular structure, Hydrogen ion concentration, Hydrolysis, Condensation reactions.

Fukuyama, I.
EIGENSCHAPPEN VAN AMMONIUMNITRAAT, 2 (The Properties of Ammonium Nitrate II). 22p
MTWL-1122.
Order from OTS or ETC $0.85 63-26207

Trans. in Dutch of Kogyo Kayaku Kyokaishi (Japan) 1955, v. 16, p. 218-228.

DESCRIPTORS: *Ammonium compounds, *Nitrates, Adsorption, Water, Phase studies.

Fukuyama, I.
EIGENSCHAPPEN VAN AMMONIUMNITRAAT, 3 (The Properties of Ammonium Nitrate III). 14p.
MTWL-1118.
Order from OTS or ETC $0.80 63-26205

Trans. in Dutch of Kogyo Kayaku Kyokaishi (Japan) n.d.

DESCRIPTORS: *Ammonium compounds, *Nitrates, Molecular properties, Hardening, Adsorption, Surface properties, Water.

(See also 63-26207)

Justat, A., Jania, K., and Gorzka, Z.
CATALYSEUR Fe-Cr À L'ÉTAT FLUIDIFIÉ POUR LA CONVERSION DE L'OXYDE DE CARBONE AVEC LA VAPEUR D'EAU. IIème partie (Iron-Chromium Catalyst in a Fluidized Bed for Conversion of Carbon Monoxide with Water Vapor). 17p 1 ref
Order from OTS, ETC or CNRS $0.80 62-26963

Trans. in French of Przemysl Chemiczny (Poland) 1959, v. [15] (38) p. 93-97.

DESCRIPTORS: *Iron catalysts, *Chromium catalysts, Carbon compounds, Monoxides, Dioxides, Hydrogen, Water vapor, *Fluidized solids.

Justat, A., Jania, K., and Gorzka, Z.
CATALYSEUR Fe-Cr À L'ÉTAT FLUIDIFIÉ POUR LA CONVERSION DE L'OXYDE DE CARBONE AVEC LA VAPEUR D'EAU. Ière PARTIE (The Iron-Chromium Catalyst in a Fluidized Bed for the Conversion of Carbon Monoxide with Water Vapor). 17p 5 refs
Order from OTS, ETC or CNRS $0.80 62-26966

Trans. in French of Przemysl Chemiczny (Poland) 1959, v. [15] (38) p. 39-44, 93-97.

DESCRIPTORS: *Iron catalysts, *Chromium catalysts, Carbon compounds, Monoxides, Water vapor, *Fluidized solids.

Kunin, T. I. and Serdyukov, V. I.
CHLORINE AND HYDROGEN EXPLOSION TEMPERATURES AND LIMITS IN HYDROGEN CHLORIDE. [1963] 19p 9refs
Order from OTS or SLA $1.60 63-18683

Trans. of Zhurnal Obshchei Khimii (USSR) 1946, v. 16 [no. 9] p. 1421-1430.
An unedited rough draft trans. is available from OTS or SLA $1.60 as 63-13910, FTD-TT-62-1415, 21 Nov 62 [13p].

DESCRIPTORS: *Explosive gases, *Explosions, *Hydrogen compounds, *Chlorides, *Chlorine, *Hydrogen, Mixtures, Gas analysis, Temperature, Electric discharges, Catalysts.

For abstract see Technical Translations 9:488, 1963.

Lehmann, Hans-Albert, and Tiess, Detlef.
A $LiBO_2$ MODIFICATION WITH THE STRUCTURE OF THE LOW (α) CRISTOBALITE. [1962] 3p.
Order from OTS or SLA $1.10 AEC-tr-5386

Trans. of Chemische Technik (East Germany) 1959, v. 11, p. 260.

DESCRIPTORS: *Silicon compounds, *Dioxides, Recrystallization, Transformations, *Lithium compounds, *Boron compounds, Oxides, Pyrolysis, Chemical properties, *Crystal structure.

Linz, Arthur.
PROCESS FOR MAKING SODIUM FLUORIDE COMPLEXES OF RARE EARTHS. [1963] 10p
Order from OTS or SLA $1.10 63-20050

Trans. of German patent 1,117,549 (M47829 IVa/12i) cl. 12i 10, internat. cl. C 01f, appl. 28 Jan 61, pub. 23 Nov 61, by Molybdenum Corp. of America, U.S.A.

DESCRIPTORS: *Sodium compounds, *Fluorides, *Rare earths, Synthesis (Chemistry).

The invention concerns a Process for manufacturing complex sodium-rare earth fluorides characterized by the conditions that cryolite and at least one rare earth oxide are blended together and heated to a temperature of at least 1290°C. until the complex is formed and the volatile reaction by-products are practically evaporated. (Author)

Mikheeva, V. I. and Kost, M. E.
INTERACTION OF CERIUM WITH HYDROGEN (O Vzaimodeistvii Tseriya s Vodorodom) tr. by Marcel I. Weinreich. 13 Feb 63 [6]p. 8 refs.
Order from OTS or SLA $1.10 SCL-T-464

Trans. of Akademiya Nauk SSSR. Doklady, 1957, v. 115, no. 1, p. 100-102.
Another trans. is available from SLA as R-4216, AEC-tr-3208, 6p.

DESCRIPTORS: *Hydrogen, *Cerium, Hydrogenation, Absorption, Hydrides, Phase transitions.

The hydrogenation of metallic cerium after a thorough cleaning and purification of the initial substances takes place at room temperature with outprevious thermal treatment or processing of the cerium specimen. During the absorption of hydrogen by cerium at room temperature (between 14° and 21°C), and independently of the hydrogen pressure, one obtains a hydride of the following composition: CeH_3-$CeH_{3.16}$. The curve representing the dependence of the hydride makeup or composition on the temperature, and the curves denoting the velocity or rate of hydrogenation confirm the formation of definite hydrides CeH_2 and CeH_3, as well as the presence of the phase of the transitional composition between CeH_2 and $CeH_{3.16}$. (Author)

Morachevskii, Yu. V. and Gordeeva, M. N.
SEPARATION OF MOLYBDENUM FROM IRON, ALUMINUM, AND CALCIUM BY MEANS OF ION-EXCHANGE ANIONITES (Otdelenie Molibdena ot Zheleza, Alyuminiya i Kal'tsiya s Pomoshchi'yu Anionitov) tr. by Sergei Shewchuck. Nov 62 [9]p. (foreign text included) 5 refs.
Order from OTS or SLA $1.10 UCRL Trans-896 (L)

Trans. of Zavodskaya Laboratoriya (USSR) 1957, v. 23 [no. 9] p. 1066-1067.

DESCRIPTORS: Ion exchange resins, *Calcium, *Aluminum, *Iron, Separation, *Molybdenum.

Pawlikovski, E.
PRODUCTION D'UN AMMONITRATE NE FORMANT PAS D'AGRÉGATS (Production of Ammonium Nitrate without Aggregates). 4p. FX-549.
Order from OTS, ETC or CNRS $0.80 62-26902

Trans. in French of Polish patent application 12,022, pub. 27 May 1959.

DESCRIPTORS: *Ammonium compounds, *Nitrates, Calcium compounds, Carbonates, *Desiccants, Sulfuric acid, Phosphoric acids.

Pindur, E.
PROCESS FOR THE PRODUCTION OF A CATALYST SUITABLE FOR ALCOHOL SYNTHESIS FROM ZINC OXIDE AND CHROMIC OXIDE. Aug 63.
Order from TTIS $11.25 TTIS NS 114

Trans. of East Germany patent 24,674, appl. 2 Jan 60, pub. 12 Feb 63.

DESCRIPTORS: Synthesis (Chemistry), *Catalysts, *Alcohols, Zinc compounds, Oxides, Chromium compounds.

Pozin, M. E. and Vosol'sobe, Ya. Ya.
OXYDATION DU SOUFRE PAR LE MÉLANGE DES ACIDES NITRIQUE ET SULFURIQUE (Oxidation of Sulfur by Mixtures of Nitric and Sulfuric Acids). 10p 6 refs
Order from OTS, ETC or CNRS $0.80 62-26911

Trans. in French of #Zhurnal Prikladnoi Khimii (USSR) 1955, v. 28, no. 4, p. 428-431.
Another trans. is available from SLA as RT-3384, 8p.

DESCRIPTORS: *Sulfur, *Oxidation, *Sulfuric acid, *Nitric acid, Mixtures, Sulfur compounds, Dioxides.

Soyama, Shimogori and Otaké.
FABRICATION DE NITRATE D'AMMONIUM DE FAIBLE DENSITÉ APPARENTE (Manufacture of Ammonium Nitrate of Apparent Low Compactness). 8p. FX-1029.
Order from OTS, ETC or CNRS $0.80 62-26961

Trans. in French of Japanese patent application 2153-1959, by Asahi, filed 31 March 54, pub. 9 Apr 59.

DESCRIPTORS: *Ammonium compounds, *Nitrates, Density, Production, Crystallization, Low pressure research.

Stackelberg, M. v.
SOLID GAS HYDRATES. [1963] 30p (figs. omitted) 26refs
Order from SLA $2.60 63-18568

Trans. of die Naturwissenschaften (West Germany) 1949 [v. 36] no. 11, p. 327-333, 359-362.

DESCRIPTORS: *Hydrates, *Solidified gas, Heat of formation, Crystal structure, Stability, Decomposition, Chemical analysis, Stereochemistry.

Sundermeyer, W. and Glemser, O.
NEW METHOD FOR THE PREPARATION OF SILICON AND BORON HYDRIDES. [1963] 11p
Order from K-H $11.00 K-H 8529 a

Trans. of Angewandte Chemie (West Germany) 1958 [v. 70] 21 Oct, p. 625-627.

DESCRIPTORS: *Silicon compounds, *Hydrides, *Borohydrides, Preparation, Synthesis (Chemistry).

Takahashi, Takekiko.
THE SUBLIMATION OF ANHYDROUS ALUMINUM CHLORIDE. [1963] 11p.
Order from K-H $11.00 K-H 3763-d

Trans. of Kogyo Kagaku Zasshi (Japan) 1954, v. 57 [no. 5] p. 337-339.
Another trans. is available from HB $9.25 as HB-5287, June 62, 2500 words.

DESCRIPTORS: *Sublimation, Heat of sublimation, *Anhydrides, *Aluminum compounds, *Chlorides, Gases, Vapor pressure, Dissociation.

Vainshtein, F. M. and Turovskii, G. Ya.
MÉCANISME DE L'OXYDATION DU CO PAR MnO2 ÉTUDIÉ PAR LA MÉTHODE DES ISOTOPES (Isotopic Study of the Mechanism of Oxidation of Carbon Monoxide on Manganese Dioxide). 6p 5 refs
Order from OTS, ETC or CNRS $0.80 62-26929

Trans. in French of Akademiya Nauk SSSR. Doklady, 1950, v. 72, no. 2, p. 297-299.
Another trans. is available in Dutch from OTS or ETC $0.80 as 61-17004, MTWL-484, 7p.

DESCRIPTORS: *Carbon compounds, *Monoxides, Oxidation, *Manganese compounds, Dioxides, Radioactive isotopes, *Radiochemistry, Oxygen.

Wiberg, Egon and Neumeier, Ulrich.
METHOD FOR THE PRODUCTION OF HIGHLY COMPLEXED HYDRIDES. [1963] [7p]
Order from OTS or SLA $1.10 63-20009

Trans. of German patent 1,080,527, M 34815 IVa/12i, cl. 12i 1/01, internat. cl. C 01 b, appl. 18 Jul 57, pub. 28 Apr 60, addition to patent 1,066,553, by Metallgesellschaft AG.

DESCRIPTORS: *Hydrides, Synthesis (Chemistry), Group I elements, Group II elements, Group III elements, Valence.

The invention involves a method for the production of highly complexed hydrides according to Patent No. 1,066,553, (available in translation from LC or SLA as 60-18000), characterized by the fact that a simple hydride salt of an element of Group I or II or its double hydride with the hydride of an element of Group III of the periodic system is utilized as a reaction component in place of M_eH_3, and is converted with $Al(BH_4)_3$. A salt of an element of Group I or II of the periodic system, in place of the simple hydride salt or double hydride, may be converted with aluminum boron hydride. (Author)

Organic Chemistry

EMULSIONS, STABLE DISPERSIONS AND PROCESS FOR PREPARING THE SAME. [1963] [4p]
Order from OTS or SLA $1.10 63-18204

Trans. of French patent 849,151 [1939].

DESCRIPTORS: *Colloids, Polyvinyl alcohol, Polymers, Vinyl radicals, Esters, Polymerization, Organic acids, Synthesis (Chemistry).

INSECTICIDES AND ANTICRYPTOGRAMS COMPOSED OF THE POTASSIUM, BARIUM AND COPPER SALTS OF PHENYL THIONO THIOCARBONIC ACID. [1963] 4p
Order from OTS or SLA $1.10 63-18561

Trans. of Italian patent 432,082 [1948].

DESCRIPTORS: *Insecticides, *Herbicides, *Potassium compounds, *Barium compounds, *Copper compounds, Phenyl radicals, Sulfides, Carbides, *Carbonic acids, Salts, Odors

METHOD FOR PREPARING AMINOMETHYLENE ALDEHYDES. [1963] 3p
Order from OTS or SLA $1.10 63-18661

Trans. of Dutch patent 47,836, issued 15 Feb 40, dated 16 Jan 40, cl. 12 o. 19, (12 o. 7; 12 q. 1; 23 b. 4 a) appl. 86,565 of 22 Feb 38, pub. 15 Sep 39, by N. V. de Bataafsche Petroleum Maatschappij.

DESCRIPTORS: *Aldehydes, *Amines, *Methanes, Ammonia, Synthesis (Chemistry), Distillation.

The invention relates to a method for preparing aminomethylene aldehydes, characterized in that 1,3-dialdehydes, their enol ethers or the acetals of those compounds are reacted with ammonia or primary amines, with or without the presence of water. (Author)

METHOD OF PREPARING CHLOROBENZENE [1963] 3p
Order from OTS or SLA $1.10 63-18653

Trans. of French patent 955,816, 18 Nov 47, by Solvay and Co., Belgium.

DESCRIPTORS: *Benzenes, *Chlorides, *Pyrolysis, Cyclohexane derivatives, Cyclohexenes, Cyclohexadienes

The present invention relates to a process for the preparation of the higher chlorobenzenes, in particular the tri-, tetra-, penta-, and hexachlorobenzenes by pyrolysis of the higher chloro-substituted derivatives of cyclohexane, cyclohexene, and cyclohexadiene. (Author)

A METHOD OF PREPARING COMPLEX ORGANIC COMPOUNDS OF HEAVY METALS, WHICH ARE SOLUBLE IN HYDROCARBONS. [1963] 6p
Order from OTS or SLA $1.10 63-18660

Trans. of Dutch patent 44,160, issued 15 Oct 38, dated 17 Sep 38, cl. 12 o. 31, (23 b. 4 a; 23 c. 1) appl. no. 73,202 of 11 Apr 35, pub. 16 May 38, by N. V. de Bataafsche Petroleum Maatschappij.

DESCRIPTORS: *Metalorganic compounds, Metals, *Heavy elements, *Complex compounds, Hydrocarbons, Solubility, *Additives, Oils, Gasoline, Metalation, Oxides, Hydroxides, Substitution reactions, Synthesis (Chemistry)

MÉTHODE, UNE, POUR OBTENIR DU TETRA CHLORURE DE CARBONE ET DU CHLOROFORME DES CHLORO-DÉRIVES INFÉRIEURS DU MÉTHANE (Preparation of Carbon Tetrachloride and Chloroform from Chlorine Derivatives of Methane). 5p.
Order from OTS, ETC or CNRS $0.80 62-26935

Trans. in French of unidentified Polish language article, n.d.

DESCRIPTORS: *Methanes, *Chlorination, Hydrochloric acid, Air, Catalysts, Copper compounds, Chlorides, *Carbon tetrachloride, *Chloroform.

[METHODS FOR THE PRODUCTION OF DYESTUFFS]: 2-CYAN-5-ETHOXYBENZENE-1-SULFONIC ACID (o-CYAN-SULFOACID). [1963] 8p.
Order from OTS or SLA $1.10 63-18546

Trans. of mono. issued by I. G. Farbenindustrie A. G., n.p., n.d. (PB 25626).

DESCRIPTORS: *Sulfonic acids, *Benzenes, *Alkoxy radicals, *Cyano radicals, Azo radicals, Synthesis (Chemistry), Chemical reactions, Purification

[METHODS FOR THE PRODUCTION OF DYESTUFFS]: PROCEDURE FOR PREPARATION OF LEUCO ALGOL ORANGE RF. [1963] 1p
Order from OTS or SLA $1.10 63-18565

Trans. of mono. issued by I. G. Farbenindustrie A. G., Mainkur, 2 Oct 34 (PB 25626).

DESCRIPTORS: *Dyes, Synthesis (Chemistry), Chemical precipitation

POLYMER SCIENCE USSR, 1962, VOL. 3, NO. 6, P. 987-1166. May 63, 1v
Order from PP $100.00/year

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1961, v. 3, no. 10, p. 1446-1448, 1482-1494, 1511-1523, 1549-1560, 1591-1606; no. 11, p. 1655-1660, 1669-1683, 1692-1697, 1716-1738, 1746-1754; no. 12, p. 1769-1773, 1794-1799, 1816-1822, 1857-1862, 1874-1875. Abstracts are included of selected articles from v. 4, nos. 7-8. Another trans. of p. 1482-1490 is available from OTS or SLA $1.10 as 63-18414 [1963] 10p.

DESCRIPTORS: *Polymers, Chemistry, *Plastics, *Polyethylene plastics, *Ziegler catalysts, *Isoprene, *Styrene plastics, *Triazines, *Halocarbon plastics, *Fluorocarbons, Catalysis, *Polyvinyl chloride, *Silicones, *Metalorganic compounds, Aluminum compounds, *Graft polymers, *Epoxy plastics, *Butadienes, *Vinyl plastics, *Crystal structure, *Sulfur, *Peroxides, Abstracts.

Consists of articles by A. V. Airapetyants, K. A. Andrianov, A. A. Berlin, S. E. Bresler, B. A. Dogadkin, A. A. Korotkov, V. V. Korshak, N.M. Lapshin, Li Pan-tun, A. N. Lyubimov, I. N. Meshkova, Yu. Sh. Moshkovskii, A. M. North, P. Pino, A. G. Pozamantir, O. B. Ptitsyn, G. A. Rekasheva, A. F. Redasheva, V. V. Sal'nikov, A. A. Tager, V. D. Ushakov.

POLYMER SCIENCE USSR, 1963, VOL. 4, NO. 2, P. 207-396. July 63, 1v
Order from PP $140.00/year

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1962, v. 4, no. 5, p. 642-654, 662-669, ##678-682, 704-707, 769-782; no. 6, p. 843-847, 860-868, ##885-888, 907-916, 944-947; no. 7, p. 972-981, 1000-1004, 1027-1032, ##1060-1063, 1098-1102, 1124; no. 8, p. 1137-1144, 1151-1154, ##1155-1162, 1163-1171, ##1178-1185, 1197-1203, 1223-1234. Abstracts are included of selected articles from v. 4, no. 10.
##Other translations are available elsewhere.

DESCRIPTORS: *Polymers, Chemistry, *Plastics, *Fillers, *Carbon black, *Metalorganic compounds, Iron compounds, *Silicones, *Polyvinyl alcohol, *Acetal plastics, *Polyester plastics, *Styrene plastics, *Fluorocarbons, *Acrylonitrile polymers, *Polyvinyl chloride, *Laminated glass, *Butadienes, *Cobalt catalysts, *Polyethylene plastics, *Germanium compounds, *Titanium compounds, *Thallium compounds, *Fibers (Synthetic), *Phenolic plastics, Abstracts

Consists of articles by K. A. Andrianov, I. A. Arbuzova, A. Baigozhin, I. M. Bel'govskii, A. A. Berlin, A. F. Dokukina, A. P. Firsov, Yu. Ya. Gotlib, V. E. Gul', G. S. Kolesnikov, V. V. Korshak, V. V. Lavrent'ev, S. G. Lyubetskii, S. G. Matsoyan, J. Mejzlík, J. Mencikova, N. V. Mikhailov, S. R. Rafikov, K. Kh. Razikov, L. V. Sergeev, Yu. A. Shlyapnikov, S. N. Ushakov, Kh. U. Usmanov, A. A. Vansheidt, M. V. Volkenstein, V. N. Zgonnik.

PROCESS FOR MANUFACTURE OF ORANGE AMIDE (2-CARBONAMID-5-ETHOXYBENZOL-1-THIOGLYCOLLIC ACID). [1963] 8p
Order from OTS or SLA $1.10 63-18570

Trans. of mono. issued by I. G. Farbenindustrie A. G., Mainkur, 30 Sep 38 (PB 25626).

DESCRIPTORS: *Dyes, *Amides, *Thio radicals, *Glycolic acids, *Thiols, *Benzyl radicals, Sulfides, *Alkoxy radicals, Chlorides, Chemical reactions.

PROCESS FOR PREPARATION OF ESTERS AND NEW INDUSTRIAL PRODUCTS RESULTING THEREFROM. [1963] [6p]
Order from OTS or SLA $1.10 63-18188

Trans. of French patent 752,150 [1933].

DESCRIPTORS: *Esters, Methyl radicals, Ethyl radicals, Butyl radicals, Stearates, Preparation, Synthesis (Chemistry), *Glycerols, Fatty acids, Alcohols, *Catalysts.

PROCESS FOR THE MANUFACTURE OF VINYL CHLORIDE. [1963] 3p
Order from OTS or SLA $1.10 63-18229

Trans. of French patent 894,546, 10 May 43, by I. G. Farbenindustrie A. G.

DESCRIPTORS: *Vinyl chlorides, Manufacturing methods, Synthesis (Chemistry), *Acetylenes, Ethanes, Chlorides, Catalysts.

PROCESS FOR THE PREPARATION OF INDANTHRENE SCARLET B. [1963] 5p
Order from OTS or SLA $1.10 63-18564

Trans. of mono. [issued by I. G. Fa[benindustrie A. G.] Mainkur, 25 Sep 35 (PB 25627).

DESCRIPTORS: *Indanthrenes, *Dyes, Synthesis (Chemistry), Methyl radicals, Amines, Chlorides, Benzenes, Purification.

Amemiya, T. and Oguchi, K.
SYNTHÈSE DE L'HYDRATE DE TERPINE. Rapport 1-3 (Synthesis of Terpene Hydrate). 17p. 14 refs.
Order from OTS, ETC or CNRS $0.80 62-26905

Trans. in French of unidentified Japanese language article, n.d.

DESCRIPTORS: *Terpenes, Hydrates, Sulfuric acid, Synthesis (Chemistry).

Arbuzov, A. E. and Abramov, V. S.
ACTION DES ÉTHERS CHLORO-ET BROMOMALONIQUES SUR LES SELS DE L'ACIDE DIÉTHYLPHOSPHOREUX (Action of Chloro- and Bromomalonic Ester on Salts of Diethyl Phosphorous Acid). 7p 2 refs FR-783.
Order from OTS, ETC or CNRS $0.80 62-26964

Trans. in French of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1946, no. 2, p. 223-224.

DESCRIPTORS: *Malonic acids, Esters, Chlorine compounds, Bromine compounds, Phosphites, Ethyl radicals, radicals, *Phosphorus acids, *Phosphorus compounds (Organic).

Arbuzov, A. E. and Imaev, M. G.
SUR LA PRÉPARATION DU PHOSPHITE DIPHÉNYLIQUE (Preparation of Diphenyl Phosphite). 5p 3 refs
Order from OTS, ETC or CNRS $0.80 62-26976

Trans. in French of #Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1959, no. 1, p. 171.

DESCRIPTORS: *Phenyl radicals, *Phosphites, Hydrolysis, Phosphorus compounds (Organic)

Bashkirov, A. N., Kagan, Yu. B., and Kliger, G. A.
NOUVELLE SYNTHÈSE DES AMINES ALIPHATIQUES (A new Synthesis of Aliphatic Amines). 7p 12 refs
Order from OTS, ETC or CNRS $0.80 62-26920

Trans. in French of Akademiya Nauk SSSR. Doklady, 1956, v. 109, no. 4, p. 774-777.
Other translations are available in English from OTS or SLA $1.10 as 62-25379, DSIR NT-637, 3p and from ASLIB, 3 Belgrave Square, London, S. W. 1, Eng. as GB73.

DESCRIPTORS: *Amines, Aliphatic compounds, Carbon compounds, Monoxides, Ammonia, Hydrogenation, *Iron catalysts.

Belov, V. N., Daev, N. A. and others.
NOUVELLE SYNTHÈSE DE L'IRONE (Synthesis of Irone). 13p 22 refs
Order from OTS, ETC or CNRS $0.80 62-26919

Trans. in French of #Zhurnal Obshchei Khimii (USSR) 1957, v. 27, no. 5, p. 1384-1389.

DESCRIPTORS: Aliphatic compounds, *Cyclic compounds, Boron compounds, Fluorides, Glycols, Methylradicals, *Isoprene.

Blasiak, E.
CALCUL DU RENDEMENT THEORIQUE DE LA SYNTHESE DU METHANOL (Theoretical Yield Calculation of the Methanol Synthesis). 12p 6 refs
Order from OTS, ETC or CNRS $0.80 62-26975

Trans. in French of Przemysl Chemiczny (Poland) 1955, v. 11[34] p. 25-28.

DESCRIPTORS: *Methanols, *Synthesis (Chemistry), Carbon compounds, Hydrogen, Monoxides, Chemical equilibrium,

Davydov, B. E., Krentsel, B. A. and others.
PREPARATION AND ELECTROPHYSICAL PROPERTIES OF SOME POLY-SCHIFF BASES. [1963] 4p
Order from ATS $6.25 ATS-92Q70R

Trans. of Vysokomolekul[yarnye] Soedin[eniya] (USSR) 1963, v. 5, no. 3, p. 321-324.

DESCRIPTORS: *Bases (Chemistry), *Amines, *Polymers, Preparation, Electrical properties, Physical properties.

Delaby, Raymond, Piganiol, Pierre, and Warolin, Christian.
N-DISUBSTITUTED 2-MERCAPTOETHYL DITHIOCARBAMATES, [1963] [2p] 1ref
Order from SLA $1.10 63-20254

Trans. of Academie des Scienoes [Paris]. Comptes Rendus (France) 1950, v. 230, p. 1671-1673 (pub. by Gauthier Villars et Cie., Paris).

DESCRIPTORS: Sulfides, *Thio-radicals, *Carbamates, *Amines, Synthesis (Chemistry), Heterocyclic compounds.

Fedotova, O. Ya., Losev, I. P., and Skripchenko, N. I.
AN INVESTIGATION OF THE REACTION OF AROMATIC DIAMINES WITH DIISOCYANATES. I. INFLUENCE OF CERTAIN FACTORS. [1963] 10p 7refs
Order from OTS or SLA $1.10 63-20060

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1963, v. 5, no. 2, no. 2, p. 222-226.

DESCRIPTORS: Isocyanate plastics, *Isocyanates, Chemical reactions, Titration, Quantitative analysis, *Amines, Reaction kinetics, Benzene derivatives.

The results of the first stage of the study of the laws governing the reaction of diamines with diisocyanates, using the reaction of N,N'-diethyl-4,4'-diaminodiphenylmethane with 1,6-hexamethylenediisocyanate as an example are presented.

Fernholz, Hans and Probst, Otto.
METHOD FOR THE MANUFACTURE OF PURE AND SIMULTANEOUSLY STABILIZED SORBIC ACID. [1963] 8p 19refs
Order from OTS or SLA $1.10 63-20059

Trans. of German pub. patent appl. 1,137,731 F 26330 IVb/12o, cl. 12 o 21, internat. cl. C 07 c, appl. 5 Aug 58, by Farbwerke Hoechst Aktiengesellschaft vormals Meister Lucius & Bruning, pub. 11 Oct 62.

DESCRIPTORS: *Sorbic acid, Synthesis, Stability, *Purification, Recrystallization, Distillation, Antioxidants, Food, Preservation.

The invention involves a method for the preparation of pure and simultaneously stabilized sorbic acid characterized by the fact that the crude sorbic acid is purified in the presence of 0.0002 to 3wt.% of a known antioxidant or a material forming stabilizing metal complexing salts or their mixtures in the customary manner or by recrystallization and that it is subsequently washed with water or with the corresponding solvents. The stabilizer is added to the crude sorbic acid before distillation, preferably in an amount of 0.01 to 1 wt.%. (Author)

Freidlin, L. Kh., Balandin, A. A., Fridman, G. A., and Lebedeva, A. E.
HYDROLYSIS OF CHLOROBENZENE WITH WATER VAPOR IN PRESENCE OF SILICA-GEL CATALYSTS. [1963] 15p 5refs
Order from OTS or SLA $1.60 63-18677

Trans. of Khimicheskaya Prom[yshlennost'] (USSR) 1945 [no. 12, p. 8-11].

DESCRIPTORS: *Benzenes, *Chlorides, *Hydrolysis, Silicon compounds, Gels, Dioxides, Catalysts, Additives.

Genas, Michel and Rull, Thomas.
PREPARATION OF CYCLANE-CARBOXYLIC ACIDS BY THE ACTION OF CARBON MONOXIDE ON CYCLODODECENE. [1963] 22p
Order from K-H $22.00 K-H 12806 b

Trans. of Société Chimique de France. Bulletin, 1962, p. 1837-1842.

DESCRIPTORS: *Cycloalkanes, *Carboxylic acids, Preparation, Synthesis (Chemistry), Carbon compounds, Monoxides.

Giller, S. A. and Sokolov, G. P.
TETRAHYDROPYRAN AS SOLVENT IN THE REDUCTION OF CARBONYL COMPOUNDS. [1963] 6p
Order from ATS $9.75 ATS-70Q71R

Trans. of Akad[emiya] Nauk Latviisk[oi] SSR [Riga]. Izv[estiya] 1959, no. 2(139) p. 85-90.

DESCRIPTORS: *Organic solvents, *Carbonyl radicals, Reduction (Chemistry), Methanes, Oxides.

Goldschmidt, Stefan and Schüssler, Herbert.
ON THE ACTION OF CHLORINE MONOXIDE ON ORGANIC COMPOUNDS. 16 Aug 33 [13p] 4refs
Order from SLA $1.60 63-20077

Trans. of [Chemische] Ber[ichte] (Germany) 1925, v. 58, p. 566-[571].

DESCRIPTORS: *Organic compounds, *Chlorine compounds, *Monoxides, Chemical reactions, Carbon tetrachloride,

Graf, Roderich.
THE REACTION MECHANISM OF SULFOXIDATION. [1963] 65p (figs. omitted) 32refs
Order from SLA $6.60 63-18685

Trans. of Justus Liebigs Annalen der Chemie (West Germany) 1952, v. 578, p. 50-82.

DESCRIPTORS: *Cyclohexanes, Sulfoxides, Iodine, *Sulfonic acids, *Sulfuration, *Oxidation, Ultraviolet radiation, Organic acids, Peroxides, Chemical reactions.

Topics include: cyclohexanepersulfonic acid as primary stage of the sulfoxidation; the secondary reactions; sulfoxidation in presence of other reactants; and, chain reactions released by acetylcyclohexanesulfonyl peroxide.

Gutner, R., Morozova, G., Papkina, Z., Tishchenko, M., and Shchigelskaya, M.
VAPOR PHASE HYDROLYSIS OF CHLOROBENZENE, II. [8 Oct 47] [10p] 4refs
Order from OTS or SLA $1.10 63-18534

Trans. of [Zhurnal Prikladnoi Khimii] (USSR) [1946] v. 19, p. 504-510.
A trans. is available in Dutch from OTS or ETC $1.55 as 61-17763, MTWL-98, 10p.

DESCRIPTORS: *Benzenes, *Chlorides, Hydrolysis, Vapors, *Phenols, Catalysts, Chemical reactions, Graphic analysis, Sorption.

Havel, Stanislav.
METHOD OF PREPARING PERACETIC ACID BY OXIDATION OF ACETALDEHYDE. [1963] 7p
Order from OTS or SLA $1.10 63-20194

Trans. of Czechoslavakian patent 100, 329 cl. 12 o 11, pat. valid from 7 Jul 60, appl. 7 Jul 60, granted 15 Jan 61, pub. 15 Jul 61.

DESCRIPTORS: *Acetaldehydes, Oxidation, *Acetic acids, Synthesis (Chemistry).

The invention involves a method of preparing peracetic acid by the oxidation of acetaldehyde with oxygen or an oxygen-containing gas, catalyzed at temperatures of -40 to +20°C by Co, Cu, Cr, Ni or Fe salts, or ultraviolet light, or ozone, characterized by the fact that the reaction takes place in the presence of aliphatic ketones. (Author)

Hirschbeck.
HYDROGENATION OF VINYL CHLORIDE TO ETHYL CHLORIDE. Merseburg Report no. 2. [1963] 5p
Order from OTS or SLA $1.10 63-18543

Trans. of mono. [Hydrierung des Vinylchlorids zu Äthylchlorid] Merseburg, Apr 36 (PB 75408).

DESCRIPTORS: *Vinyl chlorides, *Chlorides, *Ethyl radicals, Hydrogenation, Catalysts, Pressure

Hopff, H. and Rautenstrauch, C.
CHEMISTRY AND TECHNOLOGY OF VINYLIDENE CHLORIDE. Aug 63, 13p. 13 refs.
Order from ES $10.00

Trans. of Makromol[ekulare] Chemie (Switzerland) 1951, v. 6, p. 39-59.

DESCRIPTORS: *Chlorides, *Vinyl radicals, Chemistry.

Inghilleri, G.
ACTION OF ANILINE ON URANYL SALTS. II. (Azione dell'Anilina Sui Sali di Uranile. Nota IIa). 16p (foreign text included). DTC-9.
Order from OTS, ETC or DTC $0.80 63-26957

Unedited draft trans. of R. Accademia dei Fisiocritici. Atti (Italy) 1911, ser. 5, v. 3, p. 155-161.

DESCRIPTORS: *Anilines, *Uranium compounds, Salts.

Kalinin, M. A. and Stender, V. V.
ELEKTROLYTISCHE OXYDATIE EN CHLORERING VAN ETHYLEEN (Elektroliticheskoe Okislenie i Khlorirovanie Etilena) (Electrolytic Oxidation and Chlorination of Ethylene). 22p (foreign text included) 17refs MTWL-1117.
Order from OTS or ETC $0.85 63-26204

Trans. in Dutch of Zhurnal Prikladnoi Khimii (USSR) 1946, v. 19, no. 10/11, p. 1045-1058.

DESCRIPTORS: *Ethylene, *Electrochemistry, Oxidation, Chlorination.

Kitaoka and Fujita.
SYNTHÈSE DES DÉRIVES DE L'ALCOOL TERPENIQUE DE LA SÉRIE ALPHATIQUE. RAP. I, SYNTHÈSE DU DIHYDRO-ALLO-OCIMENOL-2, 6 DIMÉTHYLE-OCTÈNE 5 OL 2 - À PARTIR DE 1 'α -PINÈNE (Synthesis of Terpene Alcohols. I. Dihydro-Allocimenol (2, 6-Dimethylocten-5-ol-2) from α-Pinene). 10p 5 refs
Order from OTS, ETC or CNRS $0.80 62-26916

Trans. in French of Nihon Kagaku Zasshi (Japan) 1953, v. 74, no. 2, p. 76-78.

DESCRIPTORS: Aliphatic compounds, Alcohols, *Terpenes, *Ethers.

Kochetkov, A. K. and Freidlina, R. Kh.
SOME NEW POSSIBILITIES OF SYNTHESIS OF ORGANOMETALLIC COMPOUNDS OF LEAD, TIN AND THALLIUM. [1963] 9p 26refs
Order from OTS or SLA $1.10 63-18214

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1950, p. 203-208.

DESCRIPTORS: *Metalorganic compounds, *Lead compounds, *Tin compounds, *Thallium compounds, Chlorides, Halides, Phenyl radicals, Acetates, Mercury compounds, Chemical reactions, Synthesis (Chemistry).

The possibility is demonstrated of synthesizing organotin compounds of the type R_2SnX_2 from organolead salts, R_2PbX_2. A new method of synthesis was found for aromatic organothallium compounds, with substitution in the benzene ring, starting with organotin salts of the type R_2SnX_2. (Author)

Kogan, P. S. and Potolovskii, L. A.
PYROLYSE À HAUTE TEMPÉRATURE DE LA FRACTION ÉTHANE (1) EN VUE DE L'OBTENTION DE L'ÉTHYLÈNE (High-temperature Pyrolysis of the Ethane Fraction for Obtaining Ethylene). 18p 21 refs
Order from OTS, ETC or CNRS $0.80 62-26930

Trans. in French of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1958, v. 3, no. 1, p. 25-32.

DESCRIPTORS: Petroleum, *Hydrocarbons, *Ethanes, Propanes, *Pyrolysis, *Ethylenes, Catalysis, Nickel alloys, Chromium alloys.

Kögl, F., Halberstadt, J., and Barendregt, T. G.
SYNTHESIS OF L- AND D-1, 2-C^{14}-GLUTAMIC ACID. [1963] 4p.
Order from SLA $1.10 63-16100

Partial trans. (excerpts from p. 387, 389, 392, 395-396) of Rec[ueil des] Trav[aux] Chim[iques des] Pays-Bas (Netherlands) 1949, v. 68, p. 387-396.

DESCRIPTORS: *Glutamic acid, Tracer studies, Carbon, Radioactive isotopes.

Kojima, H.
ISOMÉRISATION DE L' α-PINENE PAR LES SELS D'AMMONIUM- L'ARGILLE ACIDES JAPONAISE (Isomerization of α-Pinene by Treatment with Ammoniated Japanese Acid Clay). 6p 4 refs
Order from OTS, ETC or CNRS $0.80 62-26909

Trans. in French of Nihon Kagaku Zasshi (Japan) 1950, v. 71, no. 6/7, p. 399-401.

DESCRIPTORS: *Terpenes, *Molecular isomerism, Heat, Ammonium radicals.

Konn, Vaslav.
THE INFLUENCE OF INVERT SUGAR UPON REMOVAL OF AMINO-ACIDS FROM SUGAR SOLUTIONS DURING SATURATION. [1963] 16p.
Order from SLA $1.60 63-14574

Trans. of Listy Cukrovanicke (Czechoslovakia) 1930, v. 49, p. 190-195.

DESCRIPTORS: Saccharides, *Amino acids, Separation, Solution, Chemical analysis, *Carbohydrates.

Kuleznev, V. N. and Igosheva, K. M.
A STUDY OF THE DENSITIES OF POLYMER MIXTURES. [1963] 5p.
Order from ATS $8.25 ATS-60Q70R

Trans. of Vysokomolekul[arnye] Soedin[eniya] (USSR) 1962, v. 4, no. 12, p. 1858-1862.

DESCRIPTORS: *Mixtures, *Polymers, *Density.

Lahr.
DIRECTIONS FOR MANUFACTURE OF PINK ANHYDRIDE (2-AMINO-3-METHYL-5-CHLOR-1-PHENYLTHIOGLYCOLIC ACID). [1963] 7p
Order from OTS or SLA $1.10 63-18547

Trans. of mono. [issued by I. G. Farbenindustrie A. G.] Mainkur, 30 Sep 38 (PB 25627).

DESCRIPTORS: *Dyes, *Anhydrides, *Amines, *Methyl radicals, *Chlorides, *Phenyl radicals, *Thio radicals, *Glycolic acids, Molecular structure.

Lange, Heinrich and Ernst, Otto.
METHOD FOR THE PREPARATION OF CHLOROACETALDEHYDE. [1963] 2p
Order from OTS or SLA $1.10 63-18538

Trans. of German patent 521,723, pub. 25 Mar 31, grant announced 12 Mar 31, suppl. to patent 496,062, 29 Oct 27, effective 23 Oct 27, by I. G. Farbenindustrie AG.

DESCRIPTORS: *Chlorides, *Acetaldehydes, *Hydrochloric acid, Solutions, Distillation, Synthesis (Chemistry)

Lebedev, O. L. and Kazarnovskii, S. N.
OXYDATION CATALYTIQUE DES AMINES ALIPHATIQUES À L'AIDE D'EAU OXYGÉNÉE (Kataliticheskoe okislenie alifaticheskikh aminov perekis'yu vodoroda) (Catalytic Oxidation of Amines with Hydrogen Peroxide). 12p 8 refs FR-1533.
Order from OTS, ETC or CNRS $0.80 62-26936

Trans. in French of #Zhurnal Obshchei Khimii (USSR) 1960, v. 30, no. 5, p. 1631-1635.

DESCRIPTORS: Aliphatic compounds, *Amines, *Oxidation, Catalysts, Hydrogen compounds, Peroxides, *Cyclohexane derivatives, Experimental data.

Lebedev, O. L. and Kazarnovskii, S. N.
OXYDATION DES AMINES PAR LE PERTUNGSTATE (Oxidation of Amines with Pertungstate). 9p 8 refs FR-1341.
Order from OTS, ETC or CNRS $0.80 62-26940

Trans. in French of #Zhurnal Obshchei Khimii (USSR) 1960, v. 30, no. 9, p. 3105-3107.

DESCRIPTORS: *Amines, *Oxidation, Chemical reactions, Nitrogen, Hydrogen, Carbon, Atomic structure, Electrons, Alkyl radicals, Reaction kinetics.

Maillard, A., Deluzarche, A., and Maire, J.-C.
ALKOXIDES OF TIN, IV. [1963] 3p
Order from ATS $4.00 ATS-99Q71F

Trans. of Soc[iété] Chim[ique de] France. Bull[etin] 1958, p. 855-856.

DESCRIPTORS: *Metalorganic compounds, *Tin compounds, Alkoxy radicals.

Malatesta, Lamberto.
PREPARATION OF ISONITRILES. [1963] 17p
Order from K-H $17.00 K-H 5391

Trans. of Gazzetta Chimica Italiana, 1947, v. 77, p. 238-247.

DESCRIPTORS: *Nitriles, Preparation.

Mamedaliev, Yu. G., Mamedaliev, G. M., Aliev, S. M., and Guseinov, N. I.
PREPARATION OF RING-METHYLATED STYRENES, α-METHYLSTYRENES AND VINYLISOPROPENYLBENZENE BY HETEROGENEOUS VAPOR-PHASE ALKYLATION AND DEHYDROGENATION OF AROMATIC HYDROCARBONS IN A FLUIDIZED BED OF OXIDE CATALYSTS. [1963] 6p
Order from ATS ATS-86Q71R

Trans. of Akad[emiya] Nauk Azerbaidzhan[skoi] SSR [Baku]. Dokl[ady] 1963, v. 19, no. 1, p. 13-18.

DESCRIPTORS: *Styrenes, Methyl radicals, Vinyl radicals, Propenes, *Benzene derivatives, Vapors, Alkylation, Dehydrogenation, Fluidized solids, *Catalysts, Oxides.

Martini.
CATALYTIC HYDROLYSIS OF CHLOROBENZENE TO PHENOL. [1963] 3p
Order from OTS or SLA $1.10 63-18537

Trans. of mono. [Katalytische Hydrolyse von Chlorbenzol zu Phenol] Leverkusen, 11 Apr 35 (PB 75333).

DESCRIPTORS: *Benzenes, *Chlorides, *Phenols, *Phenyl radicals, Catalysis, Hydrolysis

Matsubara, Y., Ishiguri, N., and Wakabayashi, S.
ÉTUDE SUR LA SYNTHÈSE DU CINÉOL. RAPP. I. SOUS PRODUITS DE LA FABRICATION DE L'HYDRATE DE TERPINE À PARTIR DE L' α-PINENE (Synthesis of Cineol. I. By-products in the Synthesis of Terpinhydrate from α-Pinene). 10p 14 refs
Order from OTS, ETC or CNRS $0.80 62-26928

Trans. in French of Kogyo Kagaku Zasshi (Japan) 1953, v. 56, no. 10, p. 794-796.

DESCRIPTORS: *Terpenes, Sulfuric acid, *Molecular isomerism, Chemical analysis.

Monti, Lydia.
THE OXIDIZING ACTION OF SELENIUM DIOXIDE. [1963] 4p 5refs
Order from SLA $1.10 63-18670

Trans. of Gazzetta Chimica Italiana, 1944, v. 74, p. 23-25.

DESCRIPTORS: *Selenium compounds, Dioxides, Oxidation, Transformations, Organic compounds, Molecular structure, Aldehydes

Murakami, Masuo, Kang, Jeng W., Itatani, Hiroshi, Seno, Saburo, and Matzusato, Nariuki.
HOMOGENEOUS HYDROGENATION OF UNSATURATED LINKAGES IN ORGANIC COBALT (II OR III) COMPLEXES. [1963] 13p
Order from K-H $13.00 K-H 12792 c

Trans. of Nihon Kagaku Zasshi (Japan) 1963, v. 84, p. 48-50.

DESCRIPTORS: *Metalorganic compounds, Complex compounds, *Cobalt compounds, *Hydrogenation.

Natta, G., Ercoli, R., Calderazzo, F., and Santambrogio, E.
CONCERNING SOME REACTIONS OF THE ARYLCHROMOTRICARBONYLS. [1963] 19p
Order from K-H $19.00 K-H 8891

Trans. of la Chimica e l'Industria (Italy) 1958, v. 40 [no. 12] p. 1003-1007.
Another trans. is available from SLA mi$2.70, ph$4.80 as 59-10425 [1959] 24p.

DESCRIPTORS: *Metalorganic compounds, Benzene derivatives, *Pyridines, *Chromium compounds, *Carbonyl radicals, Chemical reactions.

For abstract see Technical Translations 1: 398, 1959.

Natta, G., Mazzanti, G., Pargaglia, G., and Peraldo, Mari.
PREPARATION AND STRUCTURE OF HIGH LINEAR POLYMERS OF HEXYNE-1. [1963] 40p
Order from K-H $40.00 K-H 10508

Trans. of Gazzetta Chimica Italiana, 1959, v. 89 [no. 2] p. 465-494.
Other translations are available from ATS $29.45 as ATS-11L33I [1959] 25p.; SLA mi$3.00, ph$6.30 as 61-10713 [1961] 40p.

DESCRIPTORS: *Hexynes, Molecular structure, Polymers, Synthesis (Chemistry), Polymerization.

For abstract see Technical Translations 5: 665, 1961.

Nekrasova, V. A. and Shuikin, N. I.
CHLORINATION OF n-UNDECANE [Khlorirovanie n-Undekana]. Aug 63, 5p. 10 refs.
Order from ES $4.00

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1954, v. 97 [no. 5] p. 843-846.
Another trans. is available from ATS as RJ-230.

DESCRIPTORS: Chlorination, *Hydrocarbons, Methanes.

Okahara, R. R., Numa, S. A., and Watase, To. O.
FRACTIONAL ETHANOLYSIS OF ETHYL TRICHLOROSILANE. [1963] 18p
Order from K-H $18.00 K-H 3871a

Trans. of Kogyo Kagaku Zasshi (Japan) 1954, v. 57 [no. 2] p. 118-121.

DESCRIPTORS: *Silanes, Chlorides, Ethyl radicals, Decomposition.

Pokrovskii, V. A.
CATALYTIC OXIDATION OF ETHYLENE TO ETHYLENE OXIDE. [1963] [62p] 156refs
Order from OTS or SLA $6.60 63-20013

Trans. of Uspekhi Khim[ii] (USSR) 1956, v. 25 [no. 12] p. 1446-1473.

DESCRIPTORS: *Ethylenes, Oxides, *Epoxides, *Oxidation, *Catalysis, *Catalysts, *Silver catalysts, Air, Explosive gases, *Reaction kinetics, Heat of activation, Chemical reactions

A survey of the literature which includes the following topics: production of ethylene oxide by catalytic oxidation of ethylene; catalyst; process with a fluidized catalyst bed; process with a fixed catalyst bed and with the use of ethylene-air mixtures; process with the use of a fixed catalyst bed and ethylene-oxygen mixtures; and kinetics and reaction mechanism of the oxidation of ethylene on silver.

Polska, L.
METHODE DE CHLORURATION DU METHANE OU DES GAZ CONTENANT DU METHANE (Chlorination of Methane or of Methane Containing Gases). 6p.
Order from OTS, ETC or CNRS $0.80 62-26934

Trans. in French of unidentified Polish language article, n.d.

DESCRIPTORS: *Methanes, Gases, Mixtures, *Chlorination, Oxygen, Hydrochloric acid, Air.

Pospisil, J., Ettel, V., and Dockalova, S.
CONTRIBUTION À L'EMPLOI DE L'ACIDE MUCONIQUE (Application of Muconic Acid) 10p 13 refs FX-238.
Order from OTS, ETC or CNRS $0.80 62-26881

Trans. in French of Chemicky Prumysl (Czechoslovakia) 1958, v. 8(33) no. 5, p. 234-236.

DESCRIPTORS: *Mucic acid, *Pyrocatechol, Acetic acids, Peroxides, Esters, Methyl radicals, *Diels-Alder reactions, Malic acid, Polymerization.

Rathousy, Jiri.
SILICONES. [1963] 17p
Order from K-H $17.00 K-H 3882 c

Trans. of Chemicky Prumysl (Czechoslovakia) 1955, v. 5(30) no. 1, p. 24-27.

DESCRIPTORS: *Silicones, Silicon compounds, Polymers.

Reppe, Walter and others.
ETHYNYLATION, VI. [1963] 117p
Order from K-H $117.00 K-H-3858

Trans. of [Justus Liebigs] Annalen der Chemie (West Germany) 1955, v. 596, p. 158-244.

DESCRIPTORS: *Acetylenes, Chemical reactions.

Reznikov, V. M., Khol'kin, Yu. I., and Morozova, V. I.
CHROMATOGRAPHIC ANALYSIS OF FURFUROLE. 10p.
Order from OTS or ETC $0.80 63-27148

Trans. of Gidroliznaya i Lesokhimicheskaya Promyshlennost'(USSR) 1962, v. 15, no. 6, p. 19-22.

DESCRIPTORS: *Furfuryl alcohols, *Chromatographic analysis, Water, Turpentine, Mixtures.

Richter, P. and Ruzicka, V.
DÉSHYDRATATION CATALYTIQUE DU CYCLO-HEXANEDIOL-1, 2 (Katalytická dehydratace cyklohexandiolu-1, 2) (Catalytic Dehydration of 1, 2-Cyclohexanediol). 19p 12 refs
Order from OTS, ETC or CNRS $0.80 62-26932

Trans. in French of Chemicky Prumysl (Czechoslovakia) 1958, v. 8 (33), no. 3, p. 116-120.

DESCRIPTORS: *Cyclohexanols, Catalysis, *Pyrocatechol, Hydrogenation, Dehydration.

Riedel, O. and Kienitz, H.
FORMATION OF TEREPHTHALATE BY MEANS OF CARBOXYL GROUP REARRANGEMENT IN $C^{14}O_2$ ATMOSPHERE. [1963] 8p
Order from K-H $8.00 K-H 10546

Trans. of Angewandte Chemie (West Germany) 1960, v. 72 [no. 19/20] p. 738-740.
Another trans. is available from SLA mi$1.80, ph$1.80 as 61-10788 [1961] 8p.

DESCRIPTORS: *Phthlates, Synthesis (Chemistry), *Carboxylic acids, Esterification, *Carbon dioxide

Ropuszynski, S.
MÉCANISME DE NITRATION DES COMPOSÉS AROMATIQUES À L'AIDE D'ESTERS D'ACIDE NITRIQUE ET D'ALCOOLS POLYHYDROXYDES (Mechanism of Nitration of Aromatic Compounds with Nitric Acid Esters and Polyhydroxy Alcohols). 36p 22refs FX-397.
Order from OTS, ETC or CNRS $1.28 62-26886

Trans. in French of Roczniki Chemii (Poland) 1960, v. 34, p. 119-139.

DESCRIPTORS: *Benzenes, *Nitration, *Nitroglycerin, Sulfuric acid, Perchloric acid, Phosphoric acid.

Rosenthaler, L.
EXPERIMENTS WITH MUSTARD OILS. [1963] 3p 2refs
Order from SLA $1.10 63-18552

Trans. of Archiv der Pharmazie (Germany) 1924, v. 262, p. 126-127.

DESCRIPTORS: *Thiocyanates, *Sulfites, Sulfur compounds, Allyl radicals, Thiourea, Potassium compounds, Additives, Chemical reactions, Dehydration.

Rudakov, G. A.
INTERCONVERSION OF TERPENES IN THE PRESENCE OF ACID CATALYSTS AND A COMPARISON OF THE PROCESSES TAKING PLACE WITH THOSE OCCURRING IN NATURE. [1963] 7p
Order from ATS $12.00 ATS-80Q71R

Trans. of mono. Vopr[osy] Khim[ii] Terpenov i Terpenoidov (Problems of the Chemistry of Terpenes and Terpenoids) Vil'nyus, 1960, p. 113-120 (Trudy Vsesoyuznogo Soveshchaniya po Voprosam Khimii Terpenov i Terpenoidov (All-Union Conference on the Problems of the Chemistry of Terpenes and Terpenoids, Vil'nyus, 4-6 Jun 59).

DESCRIPTORS: *Terpenes, Chemical reactions, *Catalysts, Acids, *Biosynthesis.

Saito, Mistui and others.
DÉCOMPOSITION DE L'HYDROPEROXYDE D' α-PINÈME SOUS DIFFÉRENTES CONDITIONS (Decomposition of α-Pinene Hydroperoxide under Different Conditions). 26p (foreign text included) 14 refs.
Order from OTS, ETC or CNRS $0.98 62-26979

Trans. in French of Kogyo Kagaku Zasshi (Japan) 1958, v. 61, p. 1220-1224.

DESCRIPTORS: *Terpenes, Hydrogen compounds, *Peroxides, Decomposition, Catalysts.

Schenker, E[rhard].
[NEWER] METHODS OF PREPARATIVE ORGANIC CHEMISTRY. IV. APPLICATION OF COMPLEX BOROHYDRIDES AND OF DIBORANE IN ORGANIC CHEMISTRY. [1963] 76p
Order from K-H $76.00 K-H 10895 b

Trans. of Angewandte Chemie (West Germany) 1961, v. 73, no. 3, p. 81-107.
Other translations are available from SLA $8.10 as 62-16363 [1962] [84]p.; $6.60 as 63-10545, 21 Nov 61, 70p.

DESCRIPTORS: Chemistry, Organic compounds, *Complex compounds, *Borohydrides, Hydrides, *Diboranes, *Lithium compounds, Aluminum compounds, Reduction (Chemistry).

(See also 61-22331)

Shmulyakovskii, Ya. E.
SPECTROPHOTOMETRIC METHOD OF DETERMINING BUTYL ALCOHOLS [Spektrofotometricheskii Metod Opredeleniya Butilovykh Spurtov]. [1963] 7p.
Order from ATS $7.50 ATS-28Q71R

Trans. of Khim[iya] i Tekhnol[ogiya] Topliv i Masel (USSR) 1959, v. 4, no. 12, p. 46-50.
Another trans. is available from OTS or SLA $1.10 as 61-27592, DSIR NLL M. 3001 [1961] [9]p.

DESCRIPTORS: Ultraviolet spectrophotometers, *Butanols, Determination, Light, Absorption, Alcohols, Nitriles.

Slatineanu, E.
PROCESS FOR THE SYNTHESIS OF VARIOUS ORGANIC COMPOUNDS FROM METHANE. [1963] 10p
Order from ATS $16.00 ATS-62Q71F

Trans. of French patent 1,168,051, filed 6 Dec 56, granted 25 Aug 58, pub. 4 Dec 58.

DESCRIPTORS: *Methanes, Organic compounds, Synthesis (Chemistry).

Suga, K. and Watanabe, S.
REACTION OF SOME ALIPHATIC UNSATURATED HYDROCARBONS WITH FORMALDEHYDE. [1963] 24p
Order from K-H $24.00 K-H 12557 a

Trans. of Nihon Kagaku Zasshi (Japan) 1962, v. 83, no. 10, p. 1142-1147.

DESCRIPTORS: *Formaldehyde, *Aliphatic compounds, Hydrocarbons, Chemical reactions.

Terrest, Ernst, Felde, Ursula von, Hubbuch, Klaus, Frank, Hildegard, and Meyer, Wilhelm.
INFORMATION ON THE PREPARATION OF LITHIUM ALKYLS AND THEIR REACTION WITH ORGANIC HALOGEN COMPOUNDS, II. [1963] 17p
Order from K-H $17.00 K-H 10217

Trans. of [Erdöl und Kohle-Erdgas-Petrochemie] (West Germany) 1960, v. 13 [no. 3] p. 160-163.

DESCRIPTORS: *Metalorganic compounds, *Lithium compounds, Alkyl radicals, Synthesis (Chemistry), Chemical reactions, Organic compounds, *Halocarbons.

Tishchenko, D., Gutner, R., Faerman, S., and Shchigeleskaya, M.
VAPOR-PHASE HYDROLYSIS OF CHLOROBENZENE. [1963] [22p] 33refs
Order from OTS or SLA $2.60 63-18541

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1935, v. 8, no. 4, p. 685-694.

DESCRIPTORS: *Phenyl radicals, *Chlorides, *Hydrolysis, Penols, Catalysts, Vapors, Benzenes.

Tishchenko, D. V. and Churbakov, A. M.
CATALYTICAL SAPONIFICATION OF CHLOROBENZENE WITH STEAM. [1963] 9p 13refs
Order from OTS or SLA $1.10 63-18540

Trans. of Zhurnal Prikladnoi Khimii (USSR) 1934, v. 7, no. 5, p. 764-769.

DESCRIPTORS: *Phenyl radicals, *Chlorides, Steam, *Copper catalysts, *Saponification, Phenols, Catalysis, Benzenes.

Tsumura, T. and Iwashita, K.
PREPARATION OF HEXACHLOROCYCLOHEXANE. [1963] 4p
Order from OTS or SLA $1.10 63-18684

Trans. of pub. Japanese patent 1,302, announced 19 Apr 50, appl. no. 7,125, 13 Aug 48, by Nihon Noyaku Kabushiki Kaisha.

DESCRIPTORS: *Hexachlorocyclohexanes, *Benzenes, *Chlorination, *Vaporization, Synthesis (Chemistry), Light, Solvents, *Insecticides

This invention relates to a method of preparing hexachlorocyclohexane by chlorination of benzene. The special feature of the invention is the vaporization of a mixture of benzene and a volatile solvent, such as carbon tetrachloride or water, and addition of gaseous chlorine to the vapor phase while the reaction system is being exposed to light. The purpose of the invention is to provide a simple method that yields hexachlorocyclohexane in good yields and that is applicable to a large-scale production, (Author)

Ushakov, M. I. and Chinaeva, A. D.
CATALYTIC DEHYDROGENATION OF NORMAL BUTYL ALCOHOL TO BUTYL BUTYRATE. [1961] 2p 21 refs.
Order from OTS or SLA $1.10 62-14125

Abstract trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1941, no. 1, p. 139-144.
Also available from OTS or SLA $2.60 in 61-20795 [1961] 25p.

DESCRIPTORS: *Butyl radicals, *Alcohols, *Butyrates, *Butanols, Aldehydes, Dehydrogenation, Catalysis

Usov, I. N., Skvortsova, E. V., and others.
PYROLYSE DU PROPANE ET DU n-BUTANE EN PRÉSENCE DE SUBSTANCES ORGANIQUES (Pyrolysis of Propane and Butane in the Presence of Organic Additives). 7p 4 refs FR-2088.
Order from OTS, ETC or CNRS $0.80 62-26952

Trans. in French of #Zhurnal Prikladnoi Khimii (USSR) 1961, v. 34, p. 943-946.
Another trans. is available in English from OTS or SLA $1.10 as 63-14327 [1963] 4p

DESCRIPTORS: *Butanes, *Pyrolysis, Ethylenes, Oxides, Ethanes, Chlorine compounds, *Propanes, Chloroform, Propenes, Catalysts.

Vasil'ev, S. F., Lapides, N. A., and Mosin, A. M.
HIGH-TEMPERATURE FLAMELESS OXIDATION OF HYDROCARBONS AS A METHOD OF PREPARATION OF OLEFIN MONOMERS. [1963] 7p
Order from ATS $9.75 ATS-18Q71R

Trans. of Khim[iya] i Tekhnol[ogiya] Topliv i Masel (USSR) 1963, v. 8, no. 2, p. 10-14.

DESCRIPTORS: *Hydrocarbons, *Oxidation, *Alkenes, Preparation.

Voicu, O. and Popescu, F.
NON-IONOGENIC PRODUCTS WITH SURFACE ACTIVITY, BELONGING TO THE CLASS OF POLYGLYCOL ETHERS OF ALKYLPHENOLS AND ALKYLCRESOLS (Contributii la Obtinerea Unor Produsi Neionogeni cu Activitate de Suprafata din Clasa Eterilor Poliglicolici ai Alchilfenolilor si Alchilcrezolilor). [1963] [25p] (foreign text included) 16refs
Order from SLA $2.60 63-18586

Trans. of Revista de Chimie (Rumania) 1960, v. 11, no. 10, p. 569-575.

DESCRIPTORS: *Cresols, *Phenols, Ethers, *Alkyl radicals, Ethylenes, Oxides, *Surface-active substances, Oils, Synthesis (Chemistry).

Voss, W. and others.
PROCESS FOR THE PRODUCTION OF POLYLACTIC ACID. Aug 63.
Order from TTIS $5.85 TTIS NS 123

Trans. of East German patent 24,059, appl. 20 May 59, pub. 16 Nov 62.

DESCRIPTORS: Synthesis (Chemistry), *Lactic acid, *Polymers.

Wegner, Christian, Haberland, Hans, Heinz, Hermann, Hüllstrung, Dieter, and Sigwart, Karl.
PROCESS FOR THE PRODUCTION OF PROPYLENE OXIDATION PRODUCTS. [1963] [14p]
Order from OTS or SLA $1.60 63-20058

Trans. of Belgian patent 623,552(C. I. pat. appl. in the Federal Republic of Germany, no. F 35 133 IVb/12 o, filed 13 Oct 61) rept. filed 12 Oct 62, 31 Oct 62.

DESCRIPTORS: *Propenes, Oxidation, *Oxides, *Acetaldehydes, Ethylene oxide, Acroleins, Production

The object of the invention is a process for the production of propylene oxidation products by the direct oxidation of propylene with oxygen or gaseous oxygen-containing mixtures, at a high temperature and high pressure; the process is characterized by the following points: (1) The reactants are passed through a preheating chamber at a high pressure and high flowrate, where the reaction mixture is heated to a temperature of about 250-350°C and where the flowrate is regulated in such a manner that no notable propylene oxidation takes place as yet, after which the reaction mixture is directly fed into a reaction chamber where the flowrate is extensively reduced. (2) By installation of distributing elements, such as nozzles, perforated plates or screens, a uniform flow into the preheating and the reaction chambers is guaranteed. (3) Water or steam is added to the gas mixture which enters the reactor. (4) The flowrate in the preheating chamber is 3-30 times greater than in the reaction chamber. (Author)

Wichterle, O. and Rocek, J.
BECKMANN REARRANGEMENT OF CYCLOHEXANONE OXIME. KINETICS OF THE TERMINATION OF THE REACTION, PT. 1. [1963] 7p.
Order from ATS $9.85 ATS-18Q69C

Trans. of Chem[icke] Listy (Czechoslovakia) 1951, v. 45, p. 257-259.

DESCRIPTORS: *Oximes, *Cyclohexanones, Reaction kinetics.

Wittig, G.
MODES OF FORMATION OF REACTIONS OF DEHYDROBENZENE (CYCLOHEXADIENE). [1963] 26p
Order from K-H $26.00 K-H 6095 a

Trans. of Angewandte Chemie (West Germany) 1957 [v. 69] no. 8, p. 245-251.

DESCRIPTORS: *Cyclohexadienes, Synthesis (Chemistry), Chemical reactions.

Yasnitskii, B. Yu.
INVESTIGATION OF THE MECHANISM OF THE REACTION OF CHLOROSULFONIC ACID WITH SOME AROMATIC COMPOUNDS. [1963] 11p.
Order from ATS $10.50 ATS-69Q70R

Trans. of #Zh[urnal] Obshch[oi] Khim[ii] (USSR) 1953, v. 23, no. 1, p. 107-116.

DESCRIPTORS: *Benzenes, *Sulfonic acids, *Chlorides, Chemical reactions.

Ziegler, K. and Colonius, H.
A SUITABLE SYNTHESIS OF SIMPLE LITHIUM ALKYLS. Pt. 5 of Research on Alkali Organic Compounds. [1963] 19p
Order from K-H $19.00 K-H 3456 d

Trans. of [Justus Liebigs] Annalen der Chemie (Germany) 1930, v. 479, p. 135-149.

DESCRIPTORS: *Metalorganic compounds, *Alkali metal compounds, *Lithium compounds, Alkyl radicals, Synthesis (Chemistry), Ziegler catalysts.

(See also K-H 3456 c)

Ziegler, K. and Wollschitt, H.
ELECTROLYTIC NATURE OF SOME ALKALI ORGANIC COMPOUNDS. Pt. 4 of [Research on] Alkali Organic Compounds. [1963] 17p
Order from K-H $17.00 K-H 3456 c

Trans. of [Justus Liebigs] Annalen der Chemie (Germany) 1930, v. 479, p. 123-134.

DESCRIPTORS: *Metalorganic compounds, *Alkali metal compounds, Electrochemistry, Ziegler catalysts.

Ziegler, K[arl].
THE IMPORTANCE OF ALKALI METALLO-ORGANIC COMPOUNDS FOR SYNTHESIS. [1963] 20p
Order from K-H $20.00 K-H 3456-1

Trans. of Angewandte Chemie (Germany) [1936] v. 49, p. 455-460.

DESCRIPTORS: *Metalorganic compounds, Synthesis (Chemistry), *Alkali metal compounds.

Ziegler, K[arl].
THE IMPORTANCE OF ALKALI METALLO-ORGANIC COMPOUNDS FOR SYNTHESIS. [1963] 17p
Order from K-H $17.00 K-H 3456 k

Trans. of Angewandte Chemie (Germany) [1936] v. 49, p. 499-502.

DESCRIPTORS: *Metalorganic compounds, Synthesis (Chemistry), *Alkali metal compounds.

Ziegler, Karl, Gellert, H. G., Kühlhorn, H., Martin, H., and Meyer, K.
ALUMINUM-ORGANIC SYNTHESIS IN THE FIELD OF OLEFINIC HYDROCARBONS [Aluminium-Organische Synthese im Bereich Olefinischer Kohlenwasserstoffe]. [1963] 19p (figs. omitted) 15refs
Order from SLA $1.60 63-18666

Trans. of Angewandte Chemie (West Germany) 1952, v. 64 [no. 12] p. 323-329.
Other translations are available from SLA mi$2.70, ph$4.80 as 60-18391 [1960] 26p.; $1.60 as 62-16697 [1962] 19p.

DESCRIPTORS: *Ethylenes, *Ziegler catalysts, *Aluminum compounds, *Hydrides, Lithium compounds, Alkyl radicals, Ethyl radicals, Catalysis, Xylenes, Metalorganic compounds, Chemical reactions, Synthesis (Chemistry).
(For abstract see Technical Translations 4: 609. 1960.

Ziegler, Karl and Wenz, Adolf.
STEREOCHEMICAL STUDIES. III. THE PROBLEM OF OPTICALLY ACTIVE ALKALI ORGANIC COMPOUNDS. [1963] 8p
Order from K-H $8.00 K-H 3456 i

Trans. of Chemische Berichte (West Germany) 1950, v. 83, p. 354-358.

DESCRIPTORS: *Stereochemistry, *Alkali metal compounds, *Metalorganic compounds, Ziegler catalysts.

Zosel, Kurt.
TWO ESSENTIAL IMPROVEMENTS IN ALUMINO-ORGANIC SYNTHESIS. [1963] 22p
Order from K-H $22.00 K-H 10613

Trans. of Brennstoff-Chemie (West Germany) 1960, v. 41, no. 11, p. 321-325.
Another trans. is available from ATS $16.00 as ATS-22N49G [1961] 11p.

DESCRIPTORS: *Metalorganic compounds, *Aluminum compounds, Synthesis (Chemistry).

Zuman, P[etr].
ALDIMINES, CETIMINES ET BASES DE SCHIFF (Aldimines, Ketimines, Schiff's Bases). 50p
Order from OTS, ETC or CNRS $1.70 62-26918

Trans. in French of Chemicke Listy (Czechoslovakia) 1952, v. 46, p. 688-708.
Another trans. is available in English from SLA mi$3.60, ph$9.30 as 60-18539 [1960] 51p.; a partial trans. (p. 688-698) from SLA $3.60 as 63-14507 [1963] 35p.

DESCRIPTORS: Organic compounds, Synthesis (Chemistry), *Amines, *Aldehydes, *Ketones, *Polarographic analysis, Spectrographic analysis, Chemical analysis, Hydrogenation.

Physical Chemistry

PROCESS FOR IMPROVEMENT OF RESISTANCE OF CARBON ADSORBENTS TO CHEMICAL REAGENTS. [1963] [6p]
Order from OTS or SLA $1.10 63-18186

Trans. of French patent 742,153, appl. 4 Dec 31, pub. 1 Mar 33, delivered 21 Dec 32, to Comp. Fr. d. Prod. Org.-Chim. and 742,153 (suppl 42,779) delivered 7 Aug 33.

DESCRIPTORS: *Carbon, *Adsorption, *Impregnation, Reagents, Chemical properties, Gas masks.

Afanas'ev, A. S. and Sotnikova, V. I.
INFLUENCE DE L'EAU OXYGENE SUR LE POTENTIEL DE L'ELECTRODE À L'OXYGÈNE À LA SURFACE OXYDÉE DE L'ACIER EN SOLUTION ALCALINE (Vliyanie H_2O_2 na Potentsial Kislorodnogo Elektroda na Okislennoi Poverkhnosti Stali v Shchelochnom Rastvore) (Effect of H_2O_2 on the potential of an oxygen electrode at oxidized steel surfaces in an alkaline medium). 10p (foreign text included) 17refs FR-2577.
Order from OTS, ETC or CNRS $0.80 62-26424

Trans. in French of Ukrainskii Khimicheskii Zhurnal (USSR) 1960, v. 26, no. 4, p. 466-470.

DESCRIPTORS: *Hydrogen peroxide, Electrochemistry, *Electric potential, Oxygen, Electrodes, *Steel, Surfaces, Alkaline cells.

Aleksandru, L. and Oprish, M.
POLYMERIZATION KINETICS OF VINYL ACETATE IN METHANOL. 29 May 63 [7p] 1ref
Order from OTS or SLA $1.10 63-18894

Trans. of Vysokomolekul[yarnye] Soedin[eniya] (USSR) 1961, v. 3 [no. 2] p. 306-309.
Other translations are available from OTS or SLA $1.10 as DSIR NLL M.3481, 26 Sep 61 [5p] and from PP in Polymer Science USSR v. 3, no. 1, $100.00/yr.

DESCRIPTORS: *Vinyl radicals, *Acetates, *Methanols, Polymerization, Reaction kinetics, *Polyvinyl alcohol, *Vinyl plastics.

Amamiya, Tozoo.
SYNTHESIS FOR OXYGEN COMPOUNDS BY METAL CARBONYL CATALYST. 21 June 1963, 7p. 14608/61 Japan.
Order from INT $21.00

Trans. of Japanese patent 14608/61 by Direction of Agency of Industrial Science and Technology, Japan, filed 31 March 58.
Another trans. is available from OTS or SLA $1.10 as 62-18763 [1962] 6p.

DESCRIPTORS: *Oxygen compounds, Synthesis (Chemistry), Metallic compounds, *Carbonyl radicals, *Catalysts.

Becke-Göhring, Margot.
SIX MEMBERED AND EIGHT MEMBERED RING SYSTEM IN SULPHUR CHEMISTRY. [1963] 40p 109refs
Order from SLA $3.60 63-18761

Trans. of Angewandte Chemie (West Germany) 1961, v. 73, p. 589-597.

DESCRIPTORS: *Sulfur compounds, Molecular structure, Oxygen, Nitrogen, Synthesis (Chemistry), Chemical bonds, Chemical reactions, Polymers, Transformations.

Numerous compounds of sulphur have cyclic structure; of these, such character is expecially true of those containing nitrogen and oxygen. In particlar, there occur the six- and eight-membered rings; five-membered ring systems are known in the case of the methyl thionitrosylates. In the article, a survey is given of the preparation, properties and bonding interrelationships. (Author)

Chapiro, Adolphe.
POLYMERIZATION OF VINYL COMPOUNDS INITIATED BY GAMMA RAYS. [1963] [34p] 41refs
Order from SLA $3.60 63-18982

Trans. of J[ournal de] Chim[ie] Phys[ique] (France) 1950, v. 47, p. 747-763.

DESCRIPTORS: *Gamma rays, *Styrene plastics, *Vinyl plastics, *Polymerization, Polymers, Solvents, Chemical precipitation, Reaction kinetics, Radiation chemistry.

The kinetics of the polymerization of styrene by gamma rays was studied in different diluents. The addition of small quantities of diluent to the monomer generally produces an acceleration of the polymerization due to the greater "fragility" of the molecule of diluent to the action of gamma rays, the molecule of styrene being itself very stable. The interpretation of the results permits the definition of the relative susceptibility ("fragility") of the diluent in relation to the monomer. In cases where the diluent is a poor solvent for the polymer the results observed are more complicated because of the precipitation of polymer in the reaction medium. (Author)

Daniel-Bek, V. S.
POLARIZATION OF POROUS ELECTRODES. PT. 1. DISTRIBUTION OF CURRENT AND POTENTIAL INSIDE AN ELECTRODE. [1963] 15p
Order from ATS $16.00 ATS-82Q71R

Trans. of Zh[urnal] Fiz[icheskoi] Khim[ii] (USSR) 1948, v. 22, no. 6, p. 697-710.

DESCRIPTORS: *Electrodes, Electric potential, Electric currents, Porosity, *Polarization.

Frumkin, A. N. and Aikazyan, E. A.
CINÉTIQUE DE L'IONIZATION DE L'HYDROGÈNE MOLÉCULAIRE SUR L'ELECTRODE EN PLATINE (Kinetika Ionizatsii Molekulyarnogo Vodoroda na Platinovom Elektrode)(Kinetics for the Ionization of Molecular Hydrogen on a Platinum Electrode). 17p (foreign text included) 28 refs FR-2578
Order from OTS, ETC or CNRS $0.80 62-26417

Trans. in French of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1959, no. 2, p. 202-213.

DESCRIPTORS: *Hydrogen, *Ionization, Platinum, Electrodes, *Platinum electrodes, Reaction kinetics.

Galanina, R. S. and Nekrasov, A. S.
ACTIVITY OF HYDROGEN ATOMS IN VARIOUS POSITIONS IN THE CHLORINATION OF n-ALKANES C_6 TO C_9. Aug 63, 4p. 5 refs.
Order from ES $4.00

Trans. of Akad[emiya] Nauk SSSR. Doklady, 1955, v. 100 [no. 4] p. 701-703.
Another trans. is available from OTS or SLA $1.10 as 63-14148 [1963] 4p.

DESCRIPTORS: *Carbon, *Chlorination, *Atoms, *Hydrogen.

Gavoret, G. and Duclaux, J.
MACROMOLECULES AND COACERVATION. [1963] 4p. (figs. tables omitted) 5 refs.
Order from SLA $1.10 63-18492

Trans. of J[ournal de] Chim[ie] Phys[ique] (France) 1944, v. 41, p. 45-48.

DESCRIPTORS: *Polymers, *Colloids, *Gels, Preparation, Fractionation.

Gol'dman, A. G. and Akimov, I. A.
SENSITIZATION OF THE PHOTOCONDUCTIVITY OF SILVER IODIDE BY ORGANIC DYES. [1963] 7p
Order from ATS $8.00 ATS-05Q72R

Trans. of Zh[urnal] Fiz[icheskoi] Khim[ii] (USSR) 1953, v. 27, no. 3, p. 355-361.

DESCRIPTORS: *Silver compounds, *Iodides, *Photoconductivity, Sensitivity, Organic compounds, *Dyes.

Gorbachev, S. V. and Sytilin, M. S.
ÉTUDE DE LA CINÉTIQUE DE LA RÉACTION D'OXYDATION DE L'HYDROQUINONE PAR L'INTERMÉDIAIRE DU "REDOXYSTAT" (Issledovanie kinetiki reaktsii okisleniya gidrokhinona s nomoshch'yu redoksistata) (Kinetics of the oxidation of hydroquinone with the help of a redoxistat). 8p. (foreign text included). 3 refs FR-2575.
Order from OTS, ETC or CNRS $0.80 62-26423

Trans. in French of Izvestiya Vysshikh Uchebnykh Zavedenii. Khimiya i Khimicheskaya Technologiya (USSR) 1961, v. 4, no. 1, p. 155-157.

DESCRIPTORS: *Oxidation, Reaction kinetics.

Hansen, M.
SODIUM-LEAD. [1963] 5p 23refs
Order from SLA $1.10 63-18209

Trans. of mono. Aufbau der Zweistofflegierungen, Berlin, 1936, p. 919-922.

DESCRIPTORS: *Sodium compounds, *Lead compounds, *Phase studies, Freezing, Solubility, Crystal structure

Hara, H.
MESURE DE LA VITESSE D'OXYDATION CATALYTIOUE DE SO2 (Measurement of Catalytic Oxidation Rate of Sulfur Dioxide). 10p 5 refs
Order from OTS, ETC or CNRS $0.80 62-26969

Trans. in French of Kogyo Kagaku Zasshi (Japan) 1957, v. 60, no. 10, p. 1255-1257.

DESCRIPTORS: *Sulfur compounds, *Dioxides, Catalysis, *Oxidation, Chemical reactions, Vanadium compounds, Oxides, Measurement, Reaction kinetics.

Hauffe, K. and Vierk, A. L.
ACTIVITY MEASUREMENTS ON LIQUID SODIUM ALLOYS EXHIBITING LARGE DEVIATIONS FROM IDEAL BEHAVIOR. [1963] 15p 48refs.
Order from SLA $1.60 63-18212

Partial trans. (p. 151-153, 156-161) of Z[eitschrift für] Elektrochem[ie] (West Germany) 1949, v. 53, p. 151-161.

DESCRIPTORS: *Sodium alloys, *Liquid metals, Electrochemistry, Thermodynamics, Crystal structure, Phase studies, *Activity coefficient.

Hirooka, M. and Fukui, Kenichi.
AN EXAMINATION OF THE POLYMERIZATION MECHANISM OF ETHYLENE BY CATALYST VANADIUM(V)-OXYCHLORIDE ALUMINUM. Pt. 4 of High Polymerization of Olefins with Lewis Acid-Metallic Catalyst. [1963] 28p (refs omitted) 7refs
Order from SLA $2.60 63-18857

Trans. of [Kogyo Kagaku Zasshi] (Japan) 1962, v. 65, no. 11, p. 1869-1874.

DESCRIPTORS: *Polyethylene plastics, Preparation, *Ethylenes, *Polymerization, *Vanadium catalysts, Vanadium compounds, *Oxychlorides, *Aluminum, Reaction kinetics, Complex compounds.

The characteristics of the polymerization of ethylene with the use of the catalyst vanadium(V) oxychloride-aluminum and the behavior of the catalyst were studied and an examination was made of the characteristics of its reaction velocity and the mechanism of polymerization. The reaction system was studied by dividing it into each elementary process as a heterogeneous reaction with catalyst is usually treated and examined the rate-determining step in the reaction. It is concluded that the physical processes such as dissolution and diffusion of monomer in a solvent, diffusion of monomer in polymer produced on the surface of the catalyst, adsorption of monomer to catalyst and adsorption of polymer produced to the activation point were not the rate-determining steps. The time change of the reaction velocity and its dynamic behavior is explainable by the mechanism in which two kinds of active centers of the catalyst exist and they change successively in the reaction. The production of two kinds of active centers of the catalyst was studied and a tentative explanation of the mechanism is presented based on the cationic polymerization mechanism. (Author) (See also 63-18858)

Holleck, Ludwig.
THE REDUCIBILITY OF EARTH CHLORIDES BY HYDROGEN. [1963] 35p 30refs
Order from SLA $3.60 63-20049

Trans. of Ange[wandte] Chemie (Germany) 1938, v. 51, p. 243-251.

DESCRIPTORS: *Hydrogen, *Chlorides, *Rare earth compounds, Reduction (Chemistry), X-ray spectroscopy, *Scandium compounds, *Yttrium compounds, Mixtures, Dehydration.

Krause, A. and Kotkovski, E.
ÉTUDE DE L'ACTIVITÉ ET APPRÉCIATION D'UN CATALYSEUR INDUSTRIEL UTILISÉ À LA CONVERSION DU MÉTHANE (Badanie aktywnosci i ocena katalizatora przemystowego stosowanego do konwersji metanu) (Activity and Evaluation of the Technical Catalyst Used in the Conversion of Methane). 23p 7 refs
Order from OTS, ETC or CNRS $0.89 62-26985

Trans. in French of Przemysl Chemiczny (Poland) 1958, v. [14] (37) p. 511-515.

DESCRIPTORS: Catalysts, *Methanes, Transformations, *Nickel catalysts, *Magnesium catalysts, Formic acids, Hydrogen compounds, Peroxides, Measurement, Oxides.

Kul'kova, N. V., Kuznets, A. D., and Temkin, M. I.
EXCHANGE OF OXYGEN ISOTOPES BETWEEN CARBON MONOXIDE AND CARBON DIOXIDE ON AN IRON CATALYST. 10p 4 refs DTC-21.
Order from OTS, ETC or DTC $0.80 63-26688

Trans. of Akademiya Nauk SSSR. Doklady, 1953, v. 90, [no. 6] p. 1067-1070.
Another trans. is available in Dutch from OTS or ETC $1.55 as 61-17422, MTWL-793, 11p.

DESCRIPTORS: Carbon compounds, Monoxides, *Carbon dioxide, *Isotopes, *Oxygen, Iron compounds, Oxides, Catalysts, *Exchange reactions, *Iron catalysts.

Landiva, N. A. and Mchedlov-Petrosyan, O. P.
THE THERMODYNAMICS OF SOLID PHASE REACTIONS IN THE SYSTEM CALCIUM OXIDE-SILICA. [1963] 11p
Order from K-H $11.00 K-H 3763 g

Trans. of Zhurnal Fizicheskoi Khimii (USSR) 1952, v. 26, p. 1785-1790.

DESCRIPTORS: *Calcium compounds, *Silicon compounds, Chemical reactions, Solids, *Thermochemistry, Thermodynamics, Oxides.

Lel'chuk, Yu. L. and Rutskaya, E. I.
SOLUBILITÉ DE LA CRYOLITHE DANS LES SELS DE QUELQUES ACIDES ORGANIQUES (O Rastvorimosti Kriolita v Solyakh Nekotorykh Organicheskikh Kislot) (Solubility of Cryolite in Salts of Organic Acids). 9p (foreign text included) 5 refs FR-2342.
Order from OTS, ETC or CNRS $0.80 62-26429

Trans. in French of Zhurnal Prikladnoi Khimii (USSR) 1949, v. 22, no. 5, p. 499-503.

DESCRIPTORS: Salts, Acids, Carbon compounds, Solubility, *Sodium compounds, *Aluminum compounds, *Fluorides, *Minerals.

Malawski, M. J. and Wrotek, J.
MÉTHODE D'ANALYSE GRAPHIQUE DE LA CINÉTIQUE D'UN SYSTÈME DE RÉACTIONS CHIMIQUES DÉPENDANTES ENTRE ELLES (A graphic Method for Analyzing the Kinetics in a System of interdependent Chemical Reactions). 9p FX-978.
Order from OTS, ETC or CNRS $0.80 62-26427

Trans. in French of Roczniki Chemii (Poland) 1960, v. 34, no. 5, p. 297-306.

DESCRIPTORS: *Chemical reactions, Photographs, *Reaction kinetics.

Marinin, V. A.
COEFFICIENTS DE DIFFUSION DE QUELQUES CORPS DANS LES MÉLANGES GLYCÉRINE-EAU (Koeffitsient Diffuzii Nekotorykh Veshchestv v Smesi Glitserin-Voda) (Diffusion coefficients of some substances in glycerol alcohol mixtures). 10p (foreign text included) 5 refs FR-2364.
Order from OTS, ETC or CNRS $0.80 62-26422

Trans. in French of Zhurnal Fizicheskoi Khimii (USSR) 1955, v. 29, [no. 9] p. 1564-1568.

DESCRIPTORS: *Alcohols, *Glycerols, Mixtures, *Diffusion.

Markina, Z. N., Pospelova, K. A., and Rehbinder, P. A.
SOLUBILITÉ COLLOÏDALE DE QUELQUES LIQUIDES ORGANIQUES EN FONCTION DE LA CONCENTRATION DU CORPS DISSOLVANT (Dependance of the Colloidal Solubility of Some Organic Liquids on the Concentration of the Dissolving Substance). 21p
Order from OTS, ETC or CNRS $0.83 62-26912

Trans. in French of #Kolloidnyi Zhurnal (USSR) 1954, v. 16, no. 5, p. 366-375.

DESCRIPTORS: Liquids, Organic compounds, *Colloids, Solubility, Nitrobenzenes, *Oleic acids, *Sodium compounds, Hydrocarbons.

Markov, B. F.
CORRELATION BETWEEN ELECTROMOTIVE FORCES OF CHEMICAL CELLS AND JACOBI-DANIEL CELLS IN MELTS. [1963] 10p
Order from K-H $10.00 K-H 5114 b

Trans. of Ukrainskii Khimicheskii Zhurnal (USSR) 1955, v. 21, no. 1, p. 21-26.

DESCRIPTORS: *Electrochemistry, *Electrolytic cells, Electrical properties, *Fused materials.

Mizushima, Yoshihiko.
FORMATION MECHANISM OF BLACK METAL VAPOR-DEPOSIT LAYERS. [1963] 4p. (formulae omitted).
Order from SLA $1.10 63-18031

Trans. of Z[eitschrift fur] Naturforsch[un]g (West Germany) 1961, v. 16a, p. 1260-1261.

DESCRIPTORS: *Metals, Gases, *Films, Vapor, Dissociation, Recombination reactions, Crystals, Electron diffraction analysis, Vapor plating.

Morozov, I. S. and Simonich, A. T.
THERMAL AND TENSIMETRIC STUDY OF THE SYSTEM $TaCl_5$-$AlCl_3$-CsCl: THERMAL ANALYSIS OF THE SYSTEM $TaCl_5AlCl_3$-CsCl. [1963] 12p
Order from K-H $12.00 K-H 8653 f

Trans. of Zhurnal Neorganicheskoi Khimii (USSR) 1957, v. 2 [no. 8] p. 1907-1914.

DESCRIPTORS: *Tantalum compounds, *Aluminum compounds, *Cesium compounds, Chlorides, *Thermochemistry, Calorimetry.

Nesmeyanov, A. N.
VAPOR PRESSURE OF CHEMICAL ELEMENTS, tr. ed. by Robert Gary. Oct 63, approx 471p
Order from American Elsevier Publishing Co., Inc., 52 Vanderbilt Ave., New York, 17, N. Y. $17.50

Trans. of mono. [Davlenie para Khimicheskikh Elementov, Moscow, 1961, 396p.]

DESCRIPTORS: *Chemical elements, *Vapor pressure.

Norikov, Yu. D. and Blyumberg, E. A.
THE MECHANISM OF CHAIN PROPAGATION DURING OXIDATION OF N-BUTANE IN THE GAS PHASE. 13p 17refs MTWL-1116
Order from OTS or ETC $1.10 63-26203

Trans. of #Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1962, no. 8, p. 1357-1365.

DESCRIPTORS: *Oxidation, *Butanes, Gases, Reaction kinetics, *Chain reactions.

Obukhov, A. P. and Lavrov, V. P.
THE TERNARY SYSTEM $MgCl_2$+ H_2O + H_2Cl_2. [1963] [7p] 4refs
Order from OTS or SLA $1.10 63-18558

Trans. of [Gosudarstvennyi Institut Prikladnoi Khimii. Trudy] (USSR) 1934, v. 25, p. 81-84.

DESCRIPTORS: *Magnesium compounds, *Chlorides, *Water, *Hydrochloric acid, *Oxides, *Cements, *Phase studies, Solubility, Chemical equilibrium.

Perfil'ev, A. I.
THERMODYNAMIC DATA ON THE CHLORINATION OF TIN COMPOUNDS AND A STUDY OF THE CHLORINATION OF PURE TIN COMPOUNDS. [1963] 4p
Order from ATS $6.75 ATS-94Q71R

Trans. of Ukr[ainskii] Khim[icheskii] Zh[urnal] (USSR) 1963, v. 29, no. 1, p. 21-24.

DESCRIPTORS: *Thermochemistry, *Tin compounds, *Chlorination, Thermodynamics.

Pilc, A.
DANGERS D'EXPLOSION DES VAPEURS INFLAMMABLES ET DES GAZ MÉLANGÉS À L'AIR. VI. CINÉMATIQUE DE LA COMBUSTION AUTOMATIQUE SOUS PRESSION ATMOSPHÉRIQUE DES MÉLANGES À DES CONCENTRATIONS PROCHES DES CONCENTRATIONS LIMITÉS (Danger of Explosion of Flammable Mixtures of Vapors and Gases with Air. VI. Kinetics of Combustion Occurring Spontaneously at Atmospheric Pressure under Conditions which are Close to Limiting Concentrations) 34p 14 refs
Order from OTS, ETC or CNRS $1.22 62-26898

Trans. in French of Przemysl Chemiczny (Poland) 1958, v. [14] (37) p. 529-537.

DESCRIPTORS: Air, *Gases, *Vapors, *Combustion, Chemical reactions, Inflammable materials, Theory, Reaction kinetics.

Riesenfeld, E. H. and Gurian, D.
ON THE INTERMEDIATE PRODUCTS OF THE COMBUSTION OF METHANE (Über die Zwischenprodukte der Methanverbrennung). [1963] [61p] (foreign text included) 13refs
Order from SLA $6.60 63-20131

Trans. of Z[eitschrift für] Physikal[ische] Chem[ie, Leipzig] (Germany) 1928, v. 139A, p. 169-197.

DESCRIPTORS: *Methanes, *Combustion, Formaldehyde, Carbon compounds, Monoxides, Hydrogen compounds, Peroxides, Ozone, Carbon dioxide, Water.

Scholder, R.
CONCERNING COMPOUNDS OF 4 VALENT IRON (Über Verbindungen mit 4 Wertigem Eisen). [1963] [16p] 18refs
Order from SLA $1.60 63-20246

Trans. in manuscript of Zeitschrift für Elektrochemie (West Germany) 1952, v. 56, p. 879-882.

DESCRIPTORS: *Ferrates, *Manganates, *Chromates, Chemical compounds, Intermetallic compounds, Electrochemistry.

A report is given on the preparation of Ferrates (IV), in connection with this, the results of investigations on Manganate (IV) and (V), Chromate (IV) and (V) are briefly given. Magnetochemical and x-ray graphic investigations are included.

Shishido, S.
ELECTROLYTIC CONDUCTIVITY OF FUSED SALTS, REPT. 14. [1963] 25p
Order from K-H $25.00 K-H 3980 f

Trans. of Nihon Kagaku Zasshi (Japan) 1948, v. 69, p. 45-52.

DESCRIPTORS: *Electrochemistry, *Fused materials, *Salts, Electrical conductance.

Shustorovich, E. M. and Dyatkina, M. E.
THE ELECTRONIC STRUCTURE OF FERROCENE MOLECULES (Ob Elektronnom Stroenii Molekuly Ferrotsena). 8p (foreign text included) 11refs DTC-19.
Order from OTS, ETC or DTC $0.80 63-26202

Trans. of Zhurnal Strukturnoi Khimii (USSR) 1962, v. 3, no. 3, p. 345-346.

DESCRIPTORS: *Iron compounds, Organic compounds, Hydrocarbons, Molecular structure, Electrons, *Ionization potentials, *Metalorganic compounds.

Smialowski, M.
ÉTUDES UD MÉCANISME DE PÉNÉTRATION DE L'HYDROGÈNE DANS LES MÉTAUX PENDANT L'ÉLECTROLYSE (Studies concerning the Mechanism of Hydrogen Penetration into Metals during Electrolysis). 11p (foreign text included) 16 refs FX-980.
Order from OTS, ETC or CNRS $0.80 62-26426

Trans. in French of Wiadomosci Chemiczne (Poland) 1960, v. 14, no. 5, p. 273-278.

DESCRIPTORS: *Metals, *Hydrogen, *Diffusion, Electrolysis, *Electrochemistry.

Sotosaki.
VITESSE DE DÉCOMPOSITION THERMIQUE DE Ni (CO)4. RAPPORT 3-5. (Thermal Decomposition Velocity of Nickel Carbonyl). 21p 9 refs
Order from OTS, ETC or CNRS $0.83 62-26965

Trans. in French of Nihon Kagaku Zasshi (Japan) 1951, v. 72, p. 762-765, 848-850.

DESCRIPTORS: *Carboxyl radicals, *Nickel compounds, Decomposition, Heat, Chemical reactions, Reaction kinetics.

Stetter, H.
THE PREPARATION OF CHLOROACETYL CHLORIDE, DICHLOROACETYL CHLORIDE, AND TRICHLOROACETYL CHLORIDE BY THE INDUCED PHOTOOXIDATION OF HALOGENATED ETHYLENES. [1963] 7p 7refs
Order from OTS or SLA $1.10 63-18223

Trans. of mono. [issued by I. G. Farbenindustrie A. G., Wolfen] 19 Apr 41 (PB-826).

DESCRIPTORS: *Chlorides, *Acetyl radicals, *Ethylenes, *Photochemistry, *Oxidation, Ultraviolet radiation, Halogenation

Tananaev, I. and Talipov, Sh.
SURLLA SOLUBILITÉ DES FLUORURES DOUBLES D'ALUMINIUM ET DES MÉTAUX ALCALINS. (O Rastvorimosti dvoinykh Ftoridov Alyuminiya i shchelochnykh Metallov) (Solubility of the double Fluorides of Aluminium and of the basic Metals). 9p. (foreign text included). 3 refs FR-2352.
Order from OTS, ETC or CNRS $0.80 62-26425

Trans. in French of Zhurnal Obshchei Khimii (USSR) 1939, v. 9, [no. 13] p. 1155-1157.
Other translations are available from OTS or SLA $1.10 ea. as 62-14152, 5p and 62-24445, TVA-3862, 4p.; also from SLA as RT-1600.

DESCRIPTORS: *Aluminium compounds, *Fluorides, Metal compounds, Solubility.

Tokumoto, Shinichi and Tanaka, Eiji.
ELECTRO-CONDUCTIVE COATING FILM. [1962] 3p.
Order from OTS or SLA $1.10 63-10872

Trans. of Japan patent publication 62-14475, appl. 60-31882, 16 July 60, pub. 19 Sep 62, by Sony Corp.

DESCRIPTORS: *Films, *Silicon coatings, *Electrical conductance, Manufacturing methods.

Topchieva, K. V., Romanovskii, B. V., and [Ch'uang, Huo-shih].
THE KINETICS OF THE CRACKING OF CUMENE ON 10X ZEOLITE. [1963] 4p
Order from ATS $6.75 ATS-97Q71R

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1963, v. 149, no. 3, p. 644-647.

DESCRIPTORS: *Cumenes, Pyrolysis, *Organolites, Reaction kinetics.

Trachuk, S. V.
ÉTUDE DE L'ÉLECTRORÉDUCTION DE L'OXIGÈNE SUR DES CATIODES POREUSES EN MÉTAUX DU SOUS-GROUPE DU CHROME (Issledovanie Elektrovosstanovleniya Kisloroda na Poristykh Katodakh iz Metallov Podgruppy Khroma) (Electroreduction of Oxygen on Porous Cathodes Made From Metals of the Chromiumsubgroup). 15p (foreign text included) 24 refs FR-2092.
Order from OTS, ETC or CNRS $0.80 62-26415

Trans. in French of #Zhurnal Fizicheskoi Khimii (USSR) 1961, v. 35, no. 1, p. 102-111.

DESCRIPTORS: *Oxygen, *Reduction, *Electrochemistry, Cathodes, Porous metals, Chromium, Group VI elements.

Vasil'eva, I. A., Gerasimov, Ya. I., and Simatov, Yu. I.
ÉTUDE THERMODYNAMIQUE DE LA RÉACTION DE RÉDUCTION DU TRIOXIDE DE TUNGSTENE WO_3 (α) PAR L'HYDROGÈNE (Termodinamicheskie Issledovanie Reaktsii Vosstanov) (Thermodynamic Investigation of the Reduction of Tungsten Trioxide (α -WO_3) by Hydrogen) 9p (foreign text included) 10 refs FR-1943.
Order from OTS, ETC or CNRS $0.80 62-26420

Trans. in French of #Zhurnal Fizicheskoi Khimii (USSR) 1960, v. 34, no. 8, p. 1811-1815.

DESCRIPTORS: *Tungsten compounds, Oxides, Hydrogen, *Reduction, Thermodynamics.

Vdovichenko, V. T., Galenko, N. P., and Sarishvili, I. G.
AN INVESTIGATION INTO THE CHLORINATION OF METHANE IN FUSED METAL CHLORIDES BATHS. 17p 6 refs MTWL-1129.
Order from OTS or ETC $0.80 63-26582

Trans. of Ukrainskii Khimicheskii Zhurnal (USSR) 1957, v. 23, no. 2, p. 110-116.
Another translation is available from LC or SLA mi$2.40, ph$3.30 as 60-14312 [1960] 13p.

DESCRIPTORS: *Methanes, *Chlorination, Metal compounds, Chlorides, Melting.

Voskresenskaya, N. K. and Kashcheev, G. N.
SOLUBILITY OF BARIUM OXIDE IN FUSED SALTS. [1963] 16p
Order from K-H $16.00 K-H 5866 f

Trans. of [Akademiya Nauk SSSR]. Sektor Fiziko-Khimicheskogo Analiza. Izvestiya, 1954, v. 25, p. 168-175.

DESCRIPTORS: *Fused materials, *Salts, *Barium compounds, Oxides, Solubility.

Weidenthaler, P.
CHEMISORPTION OF GASES ON SILVER-OXIDE. [1963] [16p] 15refs
Order from SLA $1.60 63-20015

Trans. of [Sbornik Chekhoslovatskykh Khimicheskykh Rabot] 1961, v. 26, p. 2587-2595.

DESCRIPTORS: *Chemisorption, *Gases, *Oxides, *Silver compounds, *Adsorption, Reaction kinetics, Semiconductors, Electrical conductance, Surface properties.

The results of manometric measurements of the reciprocal effect between oxygen and silver oxide were compared with those of the kinetic investigation of electron transfer between the semi-conducting adsorbent and the chemisorbed gases. The conductivity investigation of the course of chemisorption permitted not only a comparison of the kinetics of adsorption with the kinetics of electron transfer, but also a determination of the probable type of surface holes. (Author)

Zakhavaeva, N. N. and Lopatina, A. M.
FLOW OF ELECTROLYTE SOLUTIONS IN HIGHLY DISPERSE POWDERS. 9p 3refs MTWL-1141.
Order from OTS or ETC $0.80 63-26597

Trans. of Kolloidnyi Zhurnal (USSR) 1962, v. 24, p. 455-458.

DESCRIPTORS: Electrochemistry, *Electrolytes, Solutions, Powders, *Fluid flow, Viscosity.

Ziegler, Karl and Hoberg, H.
REACTION INHIBITION OF ALUMINUM TRIALKYLS BY ASSOCIATION. [1963] 22p
Order from K-H $22.00 K-H 11313

Trans. of Chemische Berichte (West Germany) 1960, v. 93 [no. 12] p. 2938-2950.

DESCRIPTORS: *Ziegler catalysts, *Metalorganic compounds, *Aluminum compounds, Alkyl radicals, Chemical reactions.

Ziegler, Karl, Lehmkuhl, Herbert, and Lindner, Eberhard.
ELECTROLYSIS OF SEVERAL COMPLEX ORGANO-ALUMINUM COMPOUNDS ON INDIFFERENT ANODES. [1963] 21p
Order from K-H $21.00 K-H 9575

Trans. of Chemische Berichte (West Germany) 1959, v. 92, p. 2320-2332.

DESCRIPTORS: *Ziegler catalysts, *Metalorganic compounds, Complex compounds, *Aluminum compounds, Alkyl radicals, Electrolysis, *Electrochemistry, Anodes (Electrolytic cell).

EARTH SCIENCES

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 281 (EARTH SCIENCE SERIES). 30 Aug 63, 14p. JPRS: 20883.
Order from OTS $0.50 63-31663

Consists of abstracts of articles from the scientific and technical journals of East Germany, Hungary and Poland.

DESCRIPTORS: *Abstracts, *Geophysics, *East Germany, *Hungary, *Poland, Climatology, Snow, Atmospheric temperature, Humidity, Clouds, Visibility, Atmospheric sounding, Meteorological parameters, Salinity, Atmospheric refraction, Meteorology, Scientific personnel, Water supplies, Anemometers, Barometric pressure, Chlorides, Particles, Agriculture, Geodesics.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 303 (EARTH SCIENCES SERIES). 26 Sep 63, 20p JPRS: 21219.
Order from OTS $0.75 63-31823

Consists of abstracts of articles from the scientific and technical journals of Hungary and Rumania.

DESCRIPTORS: *Abstracts, *Geophysics, *Hungary, *Rumania, Geodesics, Triangulation, Aerial photography, Maps, Plastics, Photogrammetry, Education, Economics, Glaciers, Structural geology, Climatology, Geography, Rivers, Africa, Central America, Arabia, Malaya, Brazil.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 83 (GEOPHYSICS, GEOGRAPHY AND GEOLOGY SERIES). 16 Aug 63, 37p JPRS: 20678.
Order from OTS $1.00 63-31550

Trans. of selected abstracts from Referativnyi Zhurnal. Geofizika (USSR) 1962, no. 10; ###Referativnyi Zhurnal. Geografiya (USSR) 1963, no. 4; and Referativnyi Zhurnal. Geologiya (USSR) 1963, no. 4.

DESCRIPTORS: *Abstracts, *China, *Geophysics, *Geography, *Geology, Hydrology, Mapping, Meteorology, Climatology, Ecology, Natural resources, Tanganyika, Structural geology, Paleontology, Animals, Plant (Botany), Petrology, Ores (Metal sources).

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 84 (GEOPHYSICS AND SOIL SCIENCE SERIES). 26 Aug 63, 12p. JPRS: 20798.
Order from OTS $0.50 63-31617

Trans. of selected abstracts from Referativnyi Zhurnal. Geofizika (USSR) 1963, no. 3; Referativnyi Zhurnal. Otdel'nyi Vypusk 57: Pochvovedenie (USSR) 1963, nos. 2, 5-7.

DESCRIPTORS: *Abstracts, *Geophysics, Meteorology, Climatology, Hydrology, Geochemistry, Geophysical prospecting, Organic materials, Fertilizers, Geography, *Soils, China.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 86 (GEOPHYSICS SERIES). 27 Aug 63, 5p. JPRS: 20824.
Order from OTS $0.50 63-31632

Trans. of selected abstracts from Referativnyi Zhurnal. Geofizika (USSR) 1962, no. 9.

DESCRIPTORS: *Geophysics, *Abstracts, Earthquakes, Hydrology. China.

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 89 (GEOPHYSICS, MINING, AND FORESTRY SERIES). 11 Sep 63, 9p. JPRS: 21035.
Order from OTS $0.50 63-31736

Trans. of selected abstracts from Referativnyi Zhurnal. Geofizika (USSR) 1963, no. 4; Referativnyi Zhurnal. Gornoe Delo (USSR) 1963, nos. 2-3; Referativnyi Zhurnal. Lesovedenie (USSR) 1963, no. 6.

DESCRIPTORS: *Abstracts, *Geophysics, *Mining engineering, *Forestry, *China, Terrestrial magnetism, Meteorology, Structural geology, Earthquakes, Well drilling.

SCIENTIFIC ACTIVITIES IN GEOMAGNETISM AND AERONOMY 1960-62: REPORT PRESENTED TO THE INTERNATIONAL ASSOCIATION OF GEOMAGENTISM AND AERONOMY FOR THE GENERAL ASSEMBLY OF THE INTERNATIONAL UNION OF GEODESY AND GEOPHYSICS (NO. 13) [SELECTED PARTS]. 1 Oct 63, 85p. JPRS: 21277.
Order from OTS $2.25 63-31860

Trans. of mono. Soobshchenie o Nauchnykh Rabotakh po Geomagnetizm i Aeronomii 1960-62 Gg Predstavlyaetsya v Mezhdunarodnuyu Assotsiatsiyu Geomagentizma i Aeronomii: k XIII General'noi Assamblee Mezhdunarodnogo Geodezicheskogo i Geofizicheskogo Soyuza, Moscow, 1963, p. 3-111, excluding bibliographies.

DESCRIPTORS: *Scientific research, *Terrestrial magnetism, *Atmosphere, *Geodesics, *Geophysics, Scientific satellites, Magnetic properties, Rock (Geology), *Aurorae, Sky brightness, Night sky, *Ionosphere, Ionospheric disturbances, Ionospheric propagation, Radio waves, Solar atmosphere, Sunspots, Solar flares Solar corona, *Cosmic rays.

SOVIET RESEARCH IN GEOMAGNETISM AND AERONOMY. 13 Sep 63, 125p 74refs JPRS: 21073.
Order from OTS $2.75 63-31759

Trans. of mono. Issledovaniya po Geomagnetizmu i Aeronomii (Research in Geomagnetism and Aeronomy) Moscow, 1963, p. 3-16, 31-59, 77-90, 110-114.

DESCRIPTORS: *Scientific research, *Terrestrial magnetism, *Geophysics, Ionospheric disturbances, Atmospheric sounding, Data, Computers, Statistical processes, Electromagnetic fields, Earth, *Atmosphere.

Contents:
The constant geomagnetic field and modern objectives in studying it, by V. I. Pochtarev and I. M. Pudovkin
Current status of research on the constant geomagnetic field in the Soviet Union, by V. I. Pochtarev and I. M. Pudovkin
The structure and nature of the annual variation of magnetic activity, by V. M. Mishin and A. D. Shevnin
Status of research on earth currents, by V. A. Troitskaya and O. M. Barsukov
Determination of the velocities and directions of traveling disturbances in the F_2 layer according to the data of certain ionospheric stations, by N. Ya. Naidenova
Experience in working at an ionospheric panoramic station during the International Geophysical Year, by I. P. Popov and L. A. Dolbezhev
Certain questions regarding the automatic processing of results of panoramic vertical sounding, by A. I. Galkin
Conerning certain statistical methods of research on variation in the earth's electromagnetic field, by N. K. Osipov.

Goldman, L. M.
APPLICATION OF COLOR AIR PHOTOGRAPHY FOR THE STUDY OF THE TERRAIN, INTERPRETATION OF COLOR AERIAL PHOTOGRAPHS (Primenenie Tsvetnoi Aeros'emki dlya Izutcheniya Mestnosti, Deshifrirovanie Tsvetnych Aerosnimkov). 51p. MTWL-1120.
Order from OTS or ETC $1.73 63-26229

Trans. from Tsentralnyi Nauchno-Issledovatelskii Institut Geodexii Aeros"emki i Kartografii. Trudy. (USSR) 1960, no. 137.

DESCRIPTORS: *Aerial photography, *Color photography, Aerial photographs, Mapping, Photogrammetry, Geodesics.

Popov, I. V.
AERIAL SURVEY AND STUDY OF LAND WATERS. CHAPTER II. FROM THE HISTORY OF DEVELOPMENT AND APPLICATION OF AERIAL SURVEY IN THE USSR. (Aerofotos-emka i Izuchenie vod Sushi). 27p MTWL-1149.
Order from OTS or ETC $1.00 63-26686

Trans. of mono. Aerofotos"emka i Izuchenie Vod Sushi, Leningrad, 1960, p. 17-21.

DESCRIPTORS: *Aerial photography, Surveying, Water, *Geological survey, History.

Climatology and Meteorology

ACTA METEOROLOGICA SINICA, 1959, VOL. 30, NOS. 1-4: TABLE OF CONTENTS [AND SELECTED ABSTRACTS] tr. by N. H. Ng. Mar 63 [23]p. Emmanuel Coll. E-TC-Ch-63-1.
Order from OTS or SLA $2.60 63-19644

Trans. of table of contents and selected abstracts of Ch'i Hsiang Hsüeh Pao (Chinese People's Republic) 1959, v. 30, nos. 1-4.

DESCRIPTORS: *Meteorology, *China, *Abstracts, Weather forecasting, Artificial precipitation, Clouds, Fog, Convection, Barometric pressure, Atmospheric motion, Cotton, Cyclones, Numerical analysis, Water vapor.

ACTA METEOROLOGICA SINICA, 1963, VOL. 33, NO. 1: TABLE OF CONTENTS [AND SELECTED ABSTRACTS] tr. by N. H. Ng. Jun 63 [10]p. Emmanuel Coll. E-TC-CH-63-2.
Order from OTS or SLA $1.10 63-23555

Trans. of table of contents and selected abstracts of Ch'i Hsiang Hsüeh Pao (Chinese People's Republic) 1963, v. 33, no. 1,

DESCRIPTORS: *Meteorology, *China, *Abstracts, Cyclones, Barometric pressure, Convection, Atmospheric precipitation, Distribution, Solar radiation Clouds, Microwaves, Scattering.

METEOROLOGY AND HYDROLOGY, 1963, NO. 7: [SELECTED] TRANSLATIONS. 20 Aug 63, 63p. 49 refs. JPRS: 20716.
Order from OTS $1.75 63-31572

Trans. of Meteorologiya i Gidrologiya (USSR) 1963, no. 7, p. 3-17, 28-33, 40-50, 58-61, 64.

DESCRIPTORS: *Meteorology, *Hydrology, Computers, Solar radiation, Heat, Distribution, Errors, Weather forecasting, Glaciers, Oceans, Radiosondes, Atmospheric precipitation, Meters, Literature, Scientific organizations, Thermal radiation, Collaboration.

Contents:
The use of high-speed computers for the purpose of planning the development of a network of aerological stations, by S. A. Mashkovich
Computation of the radiation balance of the "earth's surface-atmosphere system" and its components, by B. E. Shneerov
Errors permissible in determining heat balance components, by I. I. Melent'eva
Comparison of the accuracy of numerical forecasts computed by using baroclinic and barotropic models, by P. N. Belov
The regulation of melt water by glaciers, by G. N. Golubev
Effective radiation from the ocean surface, by Yu. A. Men'shov and G. M. Degtyarev
An actinometric radiosonde, by G. N. Kostyanoi
An instrument for measurement of precipitation falling on vertical surfaces, by E. G. Pernyak
Literature on meteorology and hydrology for 1962: papers in journals and collections of articles (Meteorology)
International collaboration of meteorologists and hydrologists.

METEOROLOGY AND HYDROLOGY, 1963, NO. 8: [SELECTED] TRANSLATIONS, 27 Sep 63, 43p. 13 refs JPRS: 21242.
Order from OTS $1.25 63-31838

Trans. of Meteorologiya i Gidrologiya (USSR) 1963, no. 8, p. 3-10, 32138, 53, 57-64.

DESCRIPTORS: *Meteorology, *Hydrology, Atmospheric pollution, Correlation techniques, Atmospheric motion, Tropopause, Atmospheric sounding, Airplanes, Stratosphere, Meteorological instruments, Bibliographies, Reports.

Contents:
Contamination of the atmosphere by industrial wastes under anomalous stratification conditions, by M. E. Berlyand and others
Correlation analyses of circulation indices, by A. A. Filippova
Notes on the problem of determining the level and character of the tropopause, by D. A. Tarasenko
Is stratosphere sounding by airplane necessary, by V. A. Dzhordzhio and N. N. Romanov
Electrical measurement of aerophysical values, by F. Ya. Klinov: review of mono. by L. G. Kachurin, Leningrad U., 1962
Literature on meteorology and hydrology for 1962: articles in journals and symposia
News items of interest to meteorologists and hydrologists.

Arkhipova, E. P.
MAPS OF THE GEOGRAPHIC DISTRIBUTION OF THE NUMBER OF THUNDERSTORM DAYS IN THE USSR (Karty Geograficheskogo Raspredeleniya Chisla Dnei s Grozoi na Territorii SSSR) tr. by Harold K. Gold. Oct 60 reprinted Jul 63 [27]p. 4 refs.
Order from OTS $0.75 63-11697

Trans. of Glavnaya Geofizicheskaya Observatoriya, Leningrad. Trudy (USSR) 1957, no. 74[136] p. 41-60.

DESCRIPTORS: *Meteorological charts, *Maps, Distribution, *Thunderstorms, *Storms, Meteorological data, Meteorology, Climatology

Charts were prepared of the mean number of days with near or distant thunderstorms per year and for the four months of the warm period (May to August) during which thunderstorm activity is most pronounced. The charts were compiled chiefly according to the number of thunderstorm days in the data of the Climatic Handbooks of the USSR (Klimaticheskie Spravochniki SSSR). In the preparation of the maps of the number of days with thunderstorms, use was made of data from about 2100 meteorological stations with varying lengths of observational records within the period 1891-1948. As a rule, data from stations having at least 10 to 15 years of observation were used. (Author)

Barakhtin, V. N.
SOME CHARACTERISTICS OF AIRCRAFT BUMPINESS ZONES AT 8 - 10 KM HEIGHT. [24 Jul 63] [10p] 3refs
Order from OTS or SLA $1.10 63-20124

Trans. of Meteorologiya i Gidrologiya (USSR) 1963, no. 5, p. 3-8.
Another trans. is available from OTS $2.50 in 63-31267, JPRS-20146, 12 Jul 63, 112p.

DESCRIPTORS: *Atmospheric motion, *Turbulence, *Aircraft, *Flight paths, Accelerometers, Measurement, Analysis, Meteorology, Buffeting.

Results of investigation of the atmospheric turbulent zone are given. At the base was the analysis of accelerograph charts made at the same sequence as the flights were made. Sufficient frequency of flights with the self-recorders of overloads along one route reaching in some days up to 10 - 15 in 24 hours, provided answers to, firstly, whether there are any differences in the structures of zones of moderate and strong bumpiness at various aerological synoptic situations; and secondly, what was the duration of turbulent zone persistence along this route. The relation between the length of zones of moderate and strong bumpiness, their structure, with their aerological synoptic situations, was established. (Author)

Belov, P. N.
RESULTS OF AN EXPERIMENT IN THE NUMERICAL FORECASTING OF 850, 500 AND 200 MB CONTOUR CHARTS (Rezul'taty Ispytaniya Chislennogo Metoda Prognoza Kart At_{850}, At_{500} i At_{200}) tr. by Irene A. Donehoo. Jul 63, 17p 18refs WB/T-99.
Order from OTS $0.75 63-11699

Trans. of Meteorologiya i Gidrologiya (USSR) 1962, no. 10, p. 12-21.

DESCRIPTORS: *Weather forecasting, *Numerical methods and procedures, *Barometric pressure, Meteorological charts, Meteorological parameters Tests, Meteorology, Mathematical analysis.

Bolotinskaya, M. S.
ESTIMATION OF THE ACCURACY OF LONG-RANGE WEATHER FORECASTS (ASSESSMENT OF THE STANDARD OF CORRECTNESS OF LONG-RANGE WEATHER FORECASTS). [1963] [8]p. (figs. tables omitted) 6 refs. Trans. no. 151(M); [DSIR] NLL M. 3979.
Order from OTS or SLA $1.10 63-19852

Unedited trans. of Problemy Arktiki i Antarktiki (USSR) 1960, no. 5, p. 63-66.

DESCRIPTORS: *Weather forecasting, Standards, Meteorology.

Chetverikov, I. A.
OPERATIONAL EXPERIMENTAL METHOD OF OBJECTIVE ANALYSIS OF THE GEOPOTENTIAL FIELD (Operativnoe Ispytanie Skhemy Ob'ektivnogo Analiza Polei Geopotentsiala) tr. by Harold K. Gold. Jul 53, 10p. 5refs WB/T-98.
Order from OTS $0.50 63-11702

Trans. of mono. Ob'ektivnyi Analiz i Prognoz Meteorologicheskikh Elementov (a symposium) Akad. Nauk USSR, 1963, p. 14-20.

DESCRIPTORS: *Weather forecasting, *Barometric pressure, Meteorological charts, Maps, Meteorological data, Meteorology, Numerical analysis

The method of objective analysis by the method of optimum interpolation permits giving the best approximation of the geopotential field for purposes of numerical forecasting by using data of the geopotential only (for the area under investigation, on maps of the MPK-1 type, and the density of observation stations located on this map). The proposed method of application of objective analysis in a numerical method of forecasting permits assuring the operational composition of the forecast. The use of an objective analysis of the geopotential field for numerical forecasting does not decrease the degree of success of the forecast in comparison with the forecast made according to initial data taken from maps analysed by meteorologists. (Author)

Monin, A. S.
STRUCTURE OF THE WIND VELOCITY AND TEMPERATURE FIELDS IN THE GROUND SURFACE LAYER. 19 Sep 63, 22p JPRS: 21143.
Order from OTS $0.75 63-31788

Trans. of [Akademiya Nauk SSSR]. Institut Fiziki Atmosfery. Trudy, 1962, no. 4, p. 5-20.

DESCRIPTORS: *Wind, Velocity, *Temperature, Earth, Atmosphere, Surface area, Turbulence, Stability, Equations, Probability, Mathematical analysis, Meteorology.

The present survey presents the available theoretical and empiric information on the structure of the wind velocity and temperature fields in the ground surface layer, (the lower layer of air, several tens of meters thick, in which the Coriolis force may be ignored) with the center of attention focused on the characteristics which may be measured directly.

Polyakova, E. A.
VISIBILITY IN RAIN. [1963] 7p. (figs. formulae omitted) 4 refs. Trans. no. 88; [DSIR] NLL M. 3706.
Order from OTS or SLA $1.10 63-19844

Unedited trans. of Glav[naya] Geofiz[icheskaya] Obs[ervatoriya] Leningrad. Trudy (USSR) 1960, no. 100(162) p. 44-52.

DESCRIPTORS: *Atmospheric precipitation, *Visibility, *Rainfall, Intensity.

A correlation coefficient between transparency and rain intensity was obtained using 59 samples of rain. The high correlation coefficient (0.95 ± 0.01) allows one to regard the rain as the main control of visibility in a belt of rain. A table is given which may be used for predicting visibility in rain.

Rakipova, L. P., Makarova, V. S. and others.
SOVIET RESEARCH IN METEOROLOGY AND HYDROLOGY: RESEARCH IN CLIMATE THEORY [AND] THE USE OF MONOMOLECULAR FILMS FOR DECREASING EVAPORATION FROM A WATER SURFACE. 23 Aug 63, 28p. 28 refs. JPRS: 20782.
Order from OTS $0.75 63-31609

Trans. of mono. Vsesoyuznoe Nauchnoe Meteorologicheskoe Soveshchanie (All-Union Scientific Meteorological Conference) [(no. 1) Leningrad, 1961]. Trudy, v. 4, Leningrad, 1962, p. 52-59, 460-470.

DESCRIPTORS: *Scientific research *Meteorology, *Hydrology, *Climatology, *Monomolecular films, Evaporation, Water, Surface area.

Reshetov, G. D.
CLOUDINESS IN THE UPPER TROPOSPHERE. [1963] 49p. (figs. tables Eng. refs. omitted) 17 refs.
Trans. no. 131; [DSIR] NLL M. 3790.
Order from OTS or SLA $4.60 63-19772

Unedited trans. of Tsentr[alnyi] Inst[itut] Progn[ozov]. Trudy (USSR) 1961, v. 81, p. 48-91.

DESCRIPTORS: *Troposphere, *Clouds, *Cirrus clouds, *Cumulus clouds, *Aviation, Meteorological charts, Tropopause.

The results of the working-up and analysis of 1664 observations on clouds at heights of 6-12 km. are presented. The observations were made by specialists from the Central Institute of Forecasts in experimental flights in TU-104 and IL-18 aircraft in 1956-1959 and of 1332 pilots' reports on high level clouds from 1957 to April 1960. An examination was made of: the frequency of cirrus and cumulus congestus above depressions (troughs), anticyclones (ridges) and fronts; the amount, form, density, horizontal and vertical extent and height of the tops of these clouds at fronts, in relationship to the synoptic situation, latitude and time of year; the position and fluctuation of the tops of cirrus and cumulous congestus clouds relative to the tropopause at the different fronts. The characteristics of the distribution of these zones at warm, cold and occluded fronts, at different parts of the depressions according to the seasons, are given by mean vertical sections of the cloud zones.

Geodesy

SOVIET GEODESY, CARTOGRAPHY, AND INSTRUMENTATION. NEW GEODETIC INSTRUMENTS (PRELIMINARY): COMPILATION OF ABSTRACTS, SUMMARIES AND EXTRACTS. Rept. no. 1 on AID Work Assignment no. 35. 22 Aug 63 [73p]
AID Rept. P-63-107.
Order from OTS or SLA $7.60 63-24001

DESCRIPTORS: *Geodesics, *Mapping, Instrumentation, *Optical equipment, *Theodolites, *Range finding, *Tellurometers, *Leveling rods, *Telescopes

Contents:
Foreward
Introduction
Geodetic instruments
Appendix A: lists of geodetic instruments manufactures in Soviet-bloc countries
Appendix B: Basic regulations on the establishment of the state geodetic network of the USSR.

Mikhailov, A. A.
COURSE IN GRAVIMETRY AND THEORY OF THE FIGURE OF THE EARTH: CHAPS. 6-8 [tr. by J. Willis and others. Apr 61/Jan-Feb 62] [173p]
ACIC TC-242-428, pt. 2.
Order from OTS or SLA $12.50 63-24013

Trans. of mono. Kurs Gravimetrii i Teorii Figury Zemli [2d rev ed., Moscow, 1939] p. 102-196.

DESCRIPTORS: *Gravimeters, *Gravity, *Geodesics, Geophysics, *Earth, Geometric forms, Differential equations, Determination, Theory, Configuration, Textbook.

Contents:
The study of the Geoid's figure
Reduction of the force of gravity
Theory of isostasy.

Mikhailov, A. A.
COURSE IN GRAVIMETRY AND THEORY OF THE FIGURE OF THE EARTH: CHAPS. 9-10 [tr. by J. Willis and others. Apr 61/Jan-Feb 62] [228p]
ACIC TC-242-428, pt. 3.
Order from OTS or SLA $15.00 63-24014

Trans. of mono. Kurs Gravimetrii i Teorii Figury Zemli [2d rev ed., Moscow, 1939] p. 197-339.

DESCRIPTORS: *Gravimeters, *Gravity, *Geodesics, Geophysics, *Earth, Geometric forms, Determination, Theory, Configuration, Textbooks.

Contents:
Absolute determination of gravity
Relative determination of gravity.

Mikhailov, A. A.
COURSE IN GRAVIMETRY AND THEORY OF THE FIGURE OF THE EARTH, CHAPS. 11-12 [tr. by J. Willis and others. Apr 61/Jan-Feb 62] [167p] 262refs
ACIC TC-242-428, pt. 4.
Order from OTS or SLA $12.00 63-24015

Trans. of mono. Kurs Gravimetrii i Teorii Figury Zemli [2d rev ed., Moscow, 1939] p. 340-425.

DESCRIPTORS: *Gravimeters, *Gravity, *Geodesics, Geophysics, *Earth, Geometric forms, Determination, Theory, Configuration, Textbooks.

Contents:
Gravitational variometer
Utilization of observations with the variometer.

Mikhailov, A. A.
COURSE IN GRAVIMETRY AND THEORY OF THE FIGURE OF THE EARTH: PREFACE, CONTENTS, CHAPS. 1-5, tr. by J. Willis and others.
Apr 61/Jan-Feb 62 [162p] ACIC TC-242-428, pt. 1.
Order from OTS or SLA $12.00 63-24012

Trans. of mono. Kurs Gravimetrii i Teorii Figury Zemli, 2d rev ed., Moscow, 1939, p. [1]-101.

DESCRIPTORS: *Gravimeteri, *Gravity, *Geodesics, Geophysics, *Earth, Geometric forms, Potential theory, Ellipsoids, Determination, Theory, Configuration, Textbooks.

Contents:
Table of contents
Preface to the second edition
Preface to the first edition

Introduction: a short historical essay
Potential of the force of gravity
The force of gravity and its potential function
Attraction of a homogeneous spheroid
Stokes' problem.

Geology

INTERNATIONAL GEOLOGY REVIEW, VOL. 5, NO. 6, P. 663-787. June 63, 1v. 95 refs.
Order from AGI $5.00, $55.00/year

Trans. of Mineralogicheskii Sbornik (USSR) 1960, no. 14, p. 195-207; Akademiya Nauk SSSR. Okeanograficheskaya Komissiya. Trudy, 1961, v. 8, p. 3-32; Institut Neftekhimicheskoi i Gazovoi Promyshlennosti. Trudy (USSR) 1960, v. 31, p. 64-67; Sovetskaya Geologiya (USSR) 1961, no. 12, p. 3-20, 107-113, 117-121, 128-132, 138-142.

DESCRIPTORS: *Geology, Periodicals, Granite, Structural geology, Manganese, Ores (Metal sources), P Philosophy, Oils, Gases, Geophysical prospecting, Radon, Waters, Radioactive isotopes, Minerals, Volcanoes, Reviews,-Conferences, Well logging

Contents:
Determining types of granite rocks from their accessory minerals, by M. I. Kurovets
Over-all features of the geomorphology and evolution of the Azerbaidzhan coast of the Caspian Sea, by O. K. Leontev
Identification of manganese ores on well logs, by I. I. Fel'dman
Soviet Geology, 1961, no. 12: contents, critique, selected publication, availability of translations
Main features of philosophical materialism in geological works of M. V. Lomonosov, by V. A. Aprodov
Lomonosov and modern geology, by V. E. Khain
Problems of geomorphology in the works of M. V. Lomonosov, by V. A. Perevalov
Oil and gas prospects in the South Emba Gravity Maximum area, by R. G. Garetskii and others
Thermodiffusion in the metamorphosis of radon waters, by M. A. Shurshalina
Application of radioactive isotopes in mineragraphy, by Ya. N. Zeman
Symposium of tuff lavas and ignimbrites in the Soviet Union, by V. I. Vlodavets and K. N. Rudich
Review section
Reference section

Birshtein, Ya. A.
PALAEOPHREATOICUS SOJANENSIS GEN. ET SP. NOV. AND SOME PROBLEMS CONCERNING THE PHYLOGENY AND THE ZOOGEOGRAPHY OF ISOPODA CRUSTACEANS (ISOPODA) (Palaeophreatoicus Sojanensis Gen. et Sp. Nov. i Nekotorye Voprosy Filogenii i Zoogeografii Ravnonogikh Rakoobraznykh (Isopoda). 29p. (foreign text included). 25 refs. DTC-28.
Order from OTS, ETC or DTC $1.01 63-26962

Unedited draft trans. of Paleontologicheskii Zhurnal (USSR) 1962, no. 3, p. 65-80.

DESCRIPTORS: *Crustacea, Paleoecology.

Charnyi, I. A.
FLOW IN A RESERVOIR WITH IMPERMEABLE TOP AND BOTTOM DIVIDED BY A LOW-PERMEABILITY DAM. [1963] 7p.
Order from ATS $8.00 ATS-32Q71R

Trans. of Inst[itut] Neftekhim[icheskoi] i Gaz[ovoi] Prom[yshlennosti]. Tr[udy] (USSR) 1961, v. 33, p. 122-130.

DESCRIPTORS: *Fluid flow, Stratigraphy, Permeability, Dams, Hydraulic accumulators.

Gusein-Zade, M. A. and Khuan, Kou-zhen.
UNSTEADY-STATE FLOW OF FLUID IN A NONUNIFORM RESERVOIR HAVING A LOW-PERMEABILITY DAM. [1963] 11p.
Order from ATS $9.85 ATS-31Q71R

Trans. of Inst[itut] Neftekhim[icheskoi] i Gaz[ovoi] Prom[yshlennosti]. Tr[udy] (USSR) 1961, v. 33, p. 296-304.

DESCRIPTORS: *Fluid flow, Stratigraphy, Permeability, Dams, Hydraulic accumulators.

Lebedev, T. [S.] and Sobakar', G. T.
TECTONICS OF THE NORTHEASTERN REGION OF THE SEA OF AZOV: TECTONICS AND RELIEF OF THE FOUNDATION, tr. by Robert D. Hill. Apr 63 [44p] ACIC TC-615
Order from OTS or SLA $4.60 63-23156

Trans. of mono. Tektonika Severo-Vostochnogo Pryazov'ya, Kiev, 1962, p. 49-70.

DESCRIPTORS: *Structural geology, Folds (Geology), *Faults (Geology), *Geodesics, Data, Analysis, Geophysics.

Contents:
Principles of interpretation of geodetic data
Submeridional fractures
Sublatitudinal fractures
Relief of the roof of pre-cretaceous rocks.

Malofeev, G. E. and Sheinman, A. B.
COMPUTATION OF OIL RECOVERY FROM A RESERVOIR INTO WHICH HOT WATER IS INJECTED. [1963] 6p.
Order from ATS $9.50 ATS-86Q70R

Trans. of Neft[yanoe] Khoz[yaistvo] (USSR) 1963, v. 41, no. 3, p. 31-35.

DESCRIPTORS: *Oils, *Recovery, Stratigraphy, Water injection, Mathematical analysis, *Heat treatment, Petroleum industry, Hydraulic accumulators.

Mempel, G.
OCCURRENCE AND FORMATION OF IMPSONITE (COALIFIED ASPHALT) IN THE DEVONIAN REEF LIMESTONE OF THE IBERG NEAR GRUND (UPPER HARZ). [1963] 9p
Order from ATS $13.00 ATS-83Q71G

Trans. of [Erdöl und Kohle-Erdgas-Petrochemie] (West Germany) 1958, v. 11, no. 12, p. 849-852.

DESCRIPTORS: *Asphalt, *Economic geology, Limestone, Geology.

Meuskens, Wolfgang.
POTASSIUM SALTS FROM THE URAL MOUNTAINS AND FROM THE CARPATHIC MOUNTAINS. [1963] 5p.
Order from SLA $1.10 63-16116

Trans. of Wir Salzdetfurther (West Germany) 1958 [v. 5] Jan, p. 5-6.

DESCRIPTORS: *Potassium, *Salts, *Economic geology, Mining engineering, Chemical industry, Geology, Mountains.

Orlov, L. I. and Gimaev, R. S.
EFFECT OF OVERBURDEN PRESSURE ON THE ELECTRICAL RESISTIVITY OF CARBONATE ROCKS. [1963] 5p
Order from ATS $6.75 ATS-65Q71R

Trans. of Prikl[adnaya] Geofiz[ika] (USSR) 1962, no. 33, p. 206-212.

DESCRIPTORS: *Carbonate minerals, *Rock (Geology), Loading (Mechanics), Electrical properties, *Resistance (Electrical), Weight, Pressure, *Geophysics.

Permyakov, V. V. and Savchenko, N. A.
CORRESPONDENCE IN ABSOLUTE AND RELATIVE AGE DETERMINATION FOR CENTRAL CAUCASIAN SHALES. [1963] 3p.
Order from ATS $5.00 ATS-85Q71R

Trans. of Akad[emiya] Nauk SSSR. Dokl[ady] 1963, v. 149, no. 6, p. 1414-1415.

DESCRIPTORS: *Geologic age determination, *Shale, Rock (Geology), Sedimentary rock, Correlation techniques, Geology.

Sazonov, N. T.
NEW INFORMATION ON OXFORDIAN AND KIMERIDGIAN AMMONITES (Novye Dannye ob Oksfordskikh i Kimeridzhskikh Ammonitakh). Aug 62 [67]p. 38 refs. RTS 2019.
Order from OTS or SLA $6.60 62-32469

Trans. of Palaentologicheskii Sbornik [sic] (USSR) 1960, v. 3, no. 16, p. 133-173.

DESCRIPTORS: *Paleontology, *Stratigraphy, *Cephalopoda, Aquatic animals, Mollusca, Geological survey.

Shishkin, O. P., Grachev, B. A., and Leonov, A. I.
THE POWER REQUIRED FOR THE TRANSMITTER OF AN ELECTRICAL DATA LINK WITH THE BOTTOM OF THE HOLE. [1963] 6p.
Order from ATS $7.75 ATS-98Q70R

Trans. of Izv[estiya] Vysshikh Uchebn[ykh] Zavedenii. Neft' i Gaz (USSR) 1963, v. 6, no. 2, p. 93-97.

DESCRIPTORS: *Well logging, Power, Communication equipment, Borehole, Data transmission systems. *Power supplies.

Stepanenko, P. G. and Amanzholov, A. A.
SOME RELATIONSHIPS FOR BOTTOM HOLE BREAKDOWN IN WELLS WITH HYDRAULIC DRILLING. [1963] 4p.
Order from ATS $6.35 ATS-17Q71R

Trans. of Razvedka i Okhrana Nedr (USSR) 1963, v. 29, no. 2, p. 52-54.

DESCRIPTORS: *Well drilling, *Boreholes, *Failure (Mechanics), Rock (Geology), Hydraulic actuators.

Vlasov, K. A., ed.
BIBLIOGRAPHY OF WORKS ON RARE ALKALI METALS: SELECTED PARTS. 23 Sep 63, 35p JPRS: 21187.
Order from OTS $1.00 63-31812

Trans. of mono. Redkie Shchelochye Metally (Litii, Rubidii i Tsezii) Bibliografiya po Geokhimii, Mineralogii, Kristallokhimii, Geologii, Analiticheskim Metodam Opredeleniya i Ekonomike (Rare Alkali Metals (Lithium, Rubidium and Cesium) Bibliography of Geochemistry, Mineralogy, Crystallochemistry, Geology, Analytic Determination Methods and Economics) Moscow, 1962, p. 3-6, 260-267.

DESCRIPTORS: *Bibliographies, *Alkali metals, Lithium, Rubidium, Cesium, Geochemistry, Minerals, Rock (Geology), Chemical analysis, Economics, Periodicals.

Contents:
Preface
Supplement no. 1, abbreviations of individual words
Supplement no. 2, list of abbreviated and expanded titles of periodical publications.

Mineralogy

Borchert, W. and Patzak, I.
SOLID STATE REACTIONS OF COPPER AND SILVER WITH SELENIUM (Reaktionen im Festen Zustand von Kupfer und Silver mit Selen). [1963] [6]p.
Order from SLA $1.10 63-18288

Trans. of Beit[räge] z[ur] Mineral[ogie] u[nd] Petrog[raphie] (West Germany) 1955, v. 4, p. 434-442.

DESCRIPTORS: *Minerals, *Copper compounds, *Silver compounds, *Selenides, Chemical reactions, *Phase studies, Crystal structure.

Gerasimovskii, V. I.
CHKALOVITE, tr. by John Cieslewicz. 1961 [10]p.
Order from OTS or SLA $1.10 62-13103

Trans. of Akademiya Nauk SSSR. Doklady [1939] v. 22, no. 5, p. 263-267.

DESCRIPTORS: *Minerals, Beryllium, *Petrology, Physical properties, Optical properties, Chemical properties.

Hanke, K. and Zemann, J.
REFINING OF THE CRYSTAL STRUCTURE OF "OLIVIN". [1963] 2p
Order from SLA $1.10 63-18170

Trans. of Naturwissenschaften (West Germany) 1963, v. 50, no. 3, p. 91.

DESCRIPTORS: *Magnesium compounds, *Iron compounds, *Silicates, *Crystal structure, X-ray diffraction analysis.

For an olivine with about 10 mol-percent Fe_2SiO_4 the x-ray intensity of the two zones with the smallest projection angles was determined. With the parameters obtained and with suitable temperature factors the reliability indices for hko and okl reflections were about 0.07 each. The most important interatomic distances are tabulated. It is shown that the distortion of the SiO_4 tetrahedron in olivine does not exceed the usual extent. The preferred entrance of Fe into the point position of M_{II} could not be established. (Extracted)

Kusnetsov, S. I.
PROPRIÉTÉS THERMODYNAMIQUES DE L'HYDRARGILLITE ET DE LA BEMITE (Termodinamicheskie Svoistva Gidrargillita i Bemita) (Thermodynamic Properties of Hydrargillite and Bemite). 11p (foreign text included) 12 refs
Order from OTS, ETC or CNRS $0.80 62-26897

Trans. in French of #Zhurnal Prikladnoi Khimii (USSR) 1950, v. 23, no. 11, p. 1187-1190
Another trans. is available from SLA as RT-1526.

DESCRIPTORS: *Aluminum compounds, *Hydroxides, *Thermodynamics, Chlorides, Ammonium compounds, Theory.

Oceanography

DEVELOPMENTS IN SOVIET OCEANOGRAPHY.
1 Oct 63, 20p. 3refs. JPRS: 21278.
Order from OTS $0.75. 63-31861

Trans. of Priroda (USSR) 1963 [v. 52] no. 6, p. 9-16, 65-70.

DESCRIPTORS: *Oceanology, Oceans, *Natural resources, Sonar, Underwater sound, Marine biological noise, Scientific research, Ocean bottom.

Contents:
Problems of oceanography, by L. A. Zenkevich
Sound discloses the secrets of the ocean, by L. M. Brekhovskikh.

USSR OCEANOGRAPHIC AND SUBMARINE STUDIES.
20 Sep 63, 73p. 67 refs. JPRS: 21162.
Order from OTS $2.00 63-31798

Trans. of [Akademiya Nauk SSSR. Okeanograficheskaya Komissiya. Trudy] 1962, v. 14, p. 7-23, 45-68, 109-115.

DESCRIPTORS: *Oceanology, *Underwater, *Oceanographic equipment, Ocean bottom topography, Marine geology, Ocean bottom sampling, Submarines.

Contents:
Status and prospects for the development of submarine investigation, by B. P. Manteifel'
Methods of submarine investigation and their fields of application, by V. G. Azhazha
Current methods of deep-sea and oceanic investigations, by V. P. Zaitsev
Results of the direct study of the bottom relief of the inshore zone of the sea and some problems of submarine geomorphological investigations, by P. A. Kaplin and A. S. Ionin
Complex study of the bottom of shallow sea water with the help of aeromethods, by V. V. Sharkov and others
Observations on the surface of the sea bottom for geological purposes, by D. E. Gershanovich.

Kalinenko, V. O., Velokopytova, O. V., and Nikolaeva, G. G.
BACTERIOGENIC FORMATIONS OF IRON-MANGANESE CONCRETIONS IN THE INDIAN OCEAN.
15 July 63, 15p. 26 refs. JPRS: 21065.
Order from OTS $0.50 63-31280

Trans. of Okeanologiya (USSR) 1962, v. 2, no. 6, p. 1050-1059.

DESCRIPTORS: Indian Ocean, *Manganese, *Iron, Colloids, Sedimentation, *Marine geology, Bacteria, *Foraminifera

Maksimov, I. V.
THE SOUTHERN OCEAN AND ANTARCTICA. [1963] 17p. (figs. Eng. refs. tables omitted) 14 refs. Trans. no. 132; [DSIR] NLL M. 3705.
Order from OTS or SLA $1.60 63-19845

Unedited trans. of Okeanologiya (USSR) 1961, v. 1, no. 4, p. 577-591.

DESCRIPTORS: Oceans, *Antarctic regions, *Ocean currents, *Sea water, *Ice.

Data is given concerning the thermal regimes of the circum-Antarctic waters and their influence on the adjacent ice shelves.

Sorokin, Yu. I.
RADIOACTIVE CARBON IN HYDROBIOLOGICAL RESEARCH. 13 Aug 63, 5p. JPRS: 20614.
Order from OTS $0.50 63-31515

Trans. of Akademiya Nauk SSSR. Vestnik, 1963 [v. 33] no. 6, p. 69-71.

DESCRIPTORS: *Plankton, *Bacteria, Carbon, Radioactive isotopes, Marine biology, *Photosynthesis, Distribution, Synthesis (Chemistry), *Tracer studies.

Physics of the Atmosphere

PHENOMENA IN THE UPPER ATMOSPHERE: REVIEW OF SOVIET LITERATURE. Monthly report no. 36 reviewing Soviet Developments in Selected Problems in Astrophysics and Geophysics; AID Work Assignment no. 3. 3 July 63 [23]p. 19 refs. AID Rept. P-63-89.
Order from OTS or SLA $2.60 63-23536

DESCRIPTORS: *Upper atmosphere, Atmosphere, *Solar radiation, Ionosphere, *Meteorology, Astrophysics, Geophysics, Reviews.

Contents:
Solar radiation and the ionosphere
Meteorology of the upper atmosphere.

Malkevich, M. S., Samsonov, Yu. B., and Koprova, L. I.
WATER VAPOR IN THE STRATOSPHERE. 13 Aug 63, 47p. 52 refs. JPRS: 20628. NASA N63-19754.
Order from OTS $1.25 63-31521

Trans. of Uspekhi Fizicheskikh Nauk (USSR) 1963, v. 80, no. 1, p. 93-124.

DESCRIPTORS: *Water vapor, *Stratosphere, Humidity, Solar spectrum, Distribution, Measurement.

Contents:
Local measurements of humidity
Spectral measurements
Indirect methods of estimating humidity
Possible sources of gain and loss of moisture in the stratosphere

Stamov, D. G.
DETERMINATION OF ATMOSPHERIC TURBIDITY IN VARIOUS DIRECTIONS BY POLARIMETRY. 27 June 63 [19]p. 7 refs. FTD-TT-63-536.
Order from OTS or SLA $1.60 63-23645

Unedited rough draft trans. of mono. Aktinometriya i Atmospernaya Optika, Leningrad, 1961, p. 115-124.

DESCRIPTORS: *Atmosphere, *Optical properties, Polarization, *Polariscopes, Atmospheric refraction, Light, Scattering.

Seismology

Golikov, A. and Koposov, G.
EARTH CALLING: EXPLOSION (Zemlya Soobshchaet:- Vzryv)! [1962] [6]p. [DSIR] NLL M. 8981.
Order from OTS or SLA $1.10 63-15226

Trans. of Ogonek (USSR) 1962 [v. 40] no. 22, p. 30-32. Another trans. is available from OTS or SLA $1.10 as AEC-tr-5406 [1962] 10p.

DESCRIPTORS: *Nuclear explosions, Detection, Seismographs, *Seismological stations, Seismic waves.

The mechanics of nuclear explosions detection are explained during a tour of a seismic station.

Gurvich, I. I.
THE THEORY OF PATTERN SHOOTING IN SEISMIC PROSPECTING (k Teorii Gruppirovanya Vzryvov pri Seismorazvedke). 35p 19refs MTWL-1143.
Order from OTS or ETC $1.25 63-26599

Trans. of Prikladnaya Geofizika (USSR), 1961, no. 29, p. 20-38.

DESCRIPTORS: Geological survey, *Seismographs, Explosion effects, *Geophysical prospecting.

Kulichikhina, T. N.
CONDITIONS FOR THE FORMATION OF POINTS OF RETURN AND CLOSED LOOPS IN HODOGRAPHS OF REFLECTED WAVES. [1963] 16p. 4 refs.
Order from OTS or SLA $1.60 63-18443

Trans. of Razvedochnaya i Promyslovaya Geofizika (USSR) 1960, v. 35, p. 3-12.

DESCRIPTORS: *Seismic waves, *Reflection, Geophysics.

Pyatetskii-Shapiro, I. I., Zhelankina, T. S. and others.
DETERMINATION OF EARTHQUAKE EPICENTERS ON AN ELECTRONIC COMPUTER. 6 Sep 63, 5p. 3 refs. JPRS: 20954.
Order from OTS $0.50 63-31692

Trans. of Akademiya Nauk SSSR. Doklady, 1963, v. 151, no. 2, p. 323-325.

DESCRIPTORS: *Earthquakes, *Position finding, *Digital computers, Seismic waves, Seismological stations, Mathematical analysis.

ENGINEERING

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 261 (ELECTRONICS, ENGINEERING AND SPACE RESEARCH SERIES). 9 Aug 63, 17p. JPRS: 20570.
Order from OTS $0.50 63-31489

Consists of abstracts of articles from the scientific and technical journals of East Germany, Poland and Rumania.

DESCRIPTORS: *Abstracts, *Electronics, *Engineering Space flight, Bibliographies, *East Germany, *Poland, *Rumania, Computers, Analog computers, Control systems, Wood pulp, Industrial training, Power plants (Establishments), Amplifiers, Frequency modulation, Transmission lines, Tunnel diodes, Circuits, Radio broadcasting, Electromagnetic fields, Detectors, Telephone equipment, Loudspeakers, Signal-to-noise ratio, Tolerances(Mechanics), Telegraph systems, Television equipment, Circuits.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 277 (ELECTRONICS, ENGINEERING AND SPACE RESEARCH SERIES). 29 Aug 63, 10p. JPRS: 20838.
Order from OTS $0.50 63-31640

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia and Hungary.

DESCRIPTORS: *Abstracts, *Bibliographies, *Electronics, *Engineering, *Space flight, Electromagnetism, Electric motors, Computers, Chromatographic analysis, Punched cards, Ventilation, Heating plants, Friction, Hydraulic valves, Amplifiers, Rods, Stresses, Mathematical analysis, Analysis of variance Algebras, Computer logic, Recording systems, Pneumatic devices.

USSR INDUSTRIAL DEVELOPMENT: SOVIET POWER MACHINERY NO. 19. 11 Sep 63, 16p. JPRS: 21031.
Order from OTS $0.50 63-31732

Trans. of Mashinostroitel' (USSR) 1963, no. 5, p. 23; Nauka i Tekhnika (Latvian SSR) 1963, no. 2, p. 28-29; and 16 selected articles from 1963 issues of 9 Russian newspapers.

DESCRIPTORS: *Industrial production, *Power equipment, *Machines, Small tools, Electrical equipment, By-pass valves, Steam, *Turbines, Design, Hydroelectric power systems, Gas turbines, Commerce, Boilers.

Contents:
New electric power tools
Thermodynamic condensate by-pass, by Ya. K. Terent'ev
Developments in turbine design
Power machinery for Krasnoyarsk
Production at the Nevskii machine building plant
News briefs
Production at the Leningrad metal plant, by A. Ivanov
Advertisements.

USSR SCIENTIFIC ABSTRACTS: ELECTRONICS AND ENGINEERING NO. 3. 30 Aug 63, 61p. JPRS: 20867.
Order from OTS $1.75 63-31653

Consists of abstracts of articles from USSR scientific and technical journals.

DESCRIPTORS: *Abstracts, *Electronics, *Engineering, Electronic equipment, Masers, Lasers, Communication systems, Materials, Computers Pulse generators, Control systems, Gyroscopes, Mechanical engineering, Energy management.

Contents:

I. Electronics	II. Engineering
Electronic components	Computers
Instruments	Control devices
Masers and lasers	Control systems
Communications systems	Gyros
Materials	Mechanical engineering
Miscellaneous	Power engineering
	Materials
	Miscellaneous.

Filimonov, N. M., Spivak, A. I., and Popov, A. N.
THE DYNAMIC INTERACTION BETWEEN THE TOOTH OF A ROLLER BIT AND ROCK. [1963] 6p.
Order from ATS $8.85 ATS-48Q70R

Trans. of Izv[estiya] Vysshikh Uchebn[ykh] Zavedenii. Neft' i Gaz (USSR) 1963, v. 6, no. 1, p. 35-40.

DESCRIPTORS: Dynamics, *Drills, *Rock (Geology), Well drilling, Mining engineering.

Gulizade, M. P., Shakhbazbekov, K. B. and others.
STUDY OF FRICTION FORCES IN A DIRECTIONAL WELL. [1963] 7p.
Order from ATS $8.50 ATS-70Q70R

Trans. of Izv[estiya] Vysshikh Uchebn[ykh] Zavedenii. Neft' i Gaz (USSR) 1963, v. 6, no. 2, p. 23-28.

DESCRIPTORS: *Well drilling, Deflection, *Friction, Dynamics, Mining engineering.

Lukavchenko, P. I.
GRAVIMETRIC OBSERVATIONS IN BORE HOLES AND MINE SHAFTS. [1963] 11p.
Order from ATS $11.25 ATS-39Q70R

Trans. of Razvedochn[aya] i Promysl[ovaya] Geofiz[ika] (USSR) 1962, v. 43, p. 52-64.

DESCRIPTORS: *Well logging, Gravimetric analysis, *Boreholes, Mining engineering.

Mochalov, V. F.
NOMOGRAPHS FOR SELECTING DEFLECTING HOOK-UPS FOR THE BOTTOM OF A DRILL STRING. [1963] 6p
Order from ATS $8.00 ATS-46Q71R

Trans. of Neft[yanoe] Khoz[yaistvo] (USSR) 1963, v. 41, no. 4, p. 14-19.

DESCRIPTORS: *Well drilling, *Nomographs, Deflection, Boreholes.

Palevich, L. G.
PRINCIPLES OF CONSTRUCTION OF RESONANT-CAVITY LEVEL GAGES. 14 Aug 63 [13p] 6refs FTD-TT-63-562.
Order from OTS or SLA $1.60 63-24020

Unedited rough draft trans. of #Priborostroenie (USSR) 1962, no. 11, p. 6-8.

DESCRIPTORS: *Liquid-level gages, *Cavity resonators, Oscillator circuits, Frequency, Detectors, *Measuring devices (Electrical and Electronic), Design.

The circuits described may be used for measuring fluids possessing properties of nonpolar dielectrics (a number of the derived products of petroleum, liquified gases, and certain organic compounds). Consideration is given to the design of a frequency sensor and superheterodyne indicator, a circuit for automatically tuning a frequency to an extremum of the resonance curve and circuits without servosystems.

Seid-rza, M. K., Movsumov, A. A., Gasanov, G. T., and Shikhaliev, F. A.
THE DETERMINATION OF CHANGES IN HYDRODYNAMIC PRESSURE AT THE WALLS OF A WELL IN THE COURSE OF RUNNING DRILLING TOOLS AND CASING. [1963] 5p
Order from ATS $6.00 ATS-02Q72R

Trans. of Izv[estiya] Vysshikh Uchebn[ykh] Zavedenii. Neft' i Gaz (USSR) 1963, v. 6, no. 4, p. 29-32.

DESCRIPTORS: *Well drilling, *Hydrodynamics, Pressure, Boreholes, Walls, Drills, Pipes.

Stradymov, P. K.
AN APPROXIMATE METHOD FOR GAS INJECTION CALCULATIONS FOR WATER-BEARING FORMATIONS. [1963] 9p.
Order from ATS $10.75 ATS-53Q70R

Trans. of Izv[estiya] Vysshikh Uchebn[nykh] Zavedenii. Neft' i Gaz (USSR) 1963, v. 6, no. 1, p. 41-48.

DESCRIPTORS: *Hydrodynamics, *Gases, Injection, Water, Stratigraphy, Mining engineering, Recovery, Fluid Flow.

Aeronautical Engineering

Firdlender, G[avrill] O[skarovich] and Kozlov, M[ikhail] S[tepanovich].
AIRCRAFT GYROSCOPES: SELECTED PARTS. 20 May 63 [201]p. FTD-TT-62-1560.
Order from OTS or SLA $14.00 63-23672

Unedited rough draft trans. of mono. Aviatsionnye Giroskopicheskie Pribory, Moscow, 1961, chaps. 3, 5-8, p. 175-197, 243-377.

DESCRIPTORS: *Gyroscopes, *Aircraft equipment, Position finding, *Flight instruments, Gyro compasses, Design, Operation.

Contents:
Aviation directional gyroscope
High-speed gyroscopes
Integrating gyroscopes
Gyroscopic power systems
Gyroscopic systems unperturbed by inertia.

Klimov, V. I. and Litvin-Sedoi, M. Z.
EFFECT OF GYROSCOPIC MOMENTS FROM THE POWER INSTALLATION ON THE DYNAMICS OF THE AIRCRAFT [AND] LIMITATION OF OSCILLATIONS IN A LINEAR SYSTEM OF STABILIZING A STABLE LONGITUDINAL MOVEMENT. 13 June 63 [26]p. 13 refs. FTD-TT-63-197. AD-411 183
Order from OTS or SLA $2.60 63-23621

Unedited rough draft trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika (USSR) 1962 [v. 5] no. 2, p. 15-22, 39-47.

DESCRIPTORS: *Aircraft, *Control systems, *Power systems, Gyroscopes, Moments, Dynamics, Oscillation, *Stabilization systems, Linear systems, *Automatic pilots.

It is shown that gyroscopic moments from power installations must be taken into account in aircraft design calculations. Among other things, these moments reduce the "density of movement" during flight in a turbulent atmosphere. In some cases the use of automatic devices for aerodynamic compensation of the moments is justified. (Klimov) A method is described for synthesizing laws of control in linear systems with constant centered parameters in which a perturbed motion is caused by instantaneous initial deviations of system variables. The principle is applied to a system of automatic stabilization of uniform horizontal flight in which the perturbed motion takes place in an unchanged vertical plane. (Litvin-Sedoy)

Chemical Engineering

CHEMICAL INDUSTRY AND ENGINEERING, 1959, NOS. 1-2 AND 1960, NO. 2: TABLE OF CONTENTS AND SELECTED ABSTRACTS, tr. by N. H. Ng. Chinese (Mainland) Science and Technology Journals. Jan 63 [26]p. Emmanuel Coll. Research Language Center Rept. No. Chemistry - 2.
Order from OTS or SLA $2.60 63-19646

Trans. of table of contents and selected abstracts of Hua Kung Hsüeh Pao (Chinese People's Republic) 1959, nos. 1-2; 1960, no. 2.

DESCRIPTORS: *Abstracts, *Chemical industry, *Chemical engineering, China.

DEVELOPMENT OF THE USSR OIL AND GAS INDUSTRY FROM 1960 TO 1980. 11p MTWL-1137.
Order from OTS or ETC $0.80 63-26591

Trans. of Neftyanoe Khozyaistvo (USSR) 1962, v. 40, no. 1, p. 1-6.

DESCRIPTORS: *Oils, *Gases, Industries, Production, Scientific research, *Petroleum industry.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 84. 28 Jun 63, 49p JPRS: 19922.
Order from OTS $1.50 63-31147

Trans. from Zarya Vostoka (USSR) 1963, 21 Feb, p. 2; Izvestiya (USSR) 1963, 20 Mar, p. 1; Pravda, Moscow (USSR) 1963, ##18 Mar, p. 1; 20 Mar, n.p.; Ekonomicheskaya Gazeta (USSR) 1963, no. 12[85] [p. 21-28, Zaochnye Ekonomicheskie Kursy] p. 1-16. ##Another trans. is available from OTS $0.50 in 63-21675, JPRS-18903, 25 Apr 63, 6p.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Fertilizers, Industrial plants, Ammonia, *Tires, *Plastic costings Metals, Economics.

Contents:
Start-up difficulties at the Rustavi nigrogenous fertilizer plant, by B. Mshvenieradze and others
Action of the Party-State Control Committee to assure more tires of better quality
##Acceleration of the growth of the chemical industry is the primary task
The value of plastic-coated metal and its present poor state of development, by I. Al'shits
The application of economics at the Novomoskovsk chemical combine, by A. Borokhovich and others.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 102. 30 Jul 63, 23p. JPRS: 20404.
Order from OTS $0.50 63-31413

Trans. of Ural (USSR) 1963, no. 2, p. 145-150; Vystavka Dostizhenii Narodnogo Khozyaistva SSR. Informatsionnyi Byulleten', 1963, no. 4, p. 3-7.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, Industrial equipment, *Plastics industry, Textile industry, Minerals, Coatings, Petroleum industry.

Contents:
Equipment, synthetic materials, and advanced know-how, by M. K. Nadtocheeva
Large-scale chemical industry and the Western Urals, by P. Malishkov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 109. 14 Aug 63, 21p.
JPRS: 20637.
Order from OTS $0.75 63-31527

Trans. of Khimichna Promyslovist' (USSR) 1963, no. 2, p. 3-5, 70-72 and 76-78.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Economics, *Sulfuric acid, *Furnaces, *Gas burners, *Batteries and components, *Electrolytes, Sodium compounds, Hydroxides, Purification.

Contents:
Expansion of Ukrainian chemical industry
Increased sulfuric acid production in Ukraine, by L. G. Chernega
Donets soda and ferrite furnaces now burning gas, by A. S. Shestakov and E. N. Ovsyannikov
Production of electrolyte for alkaline batteries, by M. M. Kushnir

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 110. 19 Aug 63, 58p. JPRS: 20712.
Order from OTS $1.50 63-31569

Trans. of Kommunist, Vilna (USSR) 1963 [v. 46] no. 6, p. 66-69; Na Stroikakh Rossii (USSR) 1963, no. 5, p. 8-10, 12, 14; and 12 selected articles from 1963 issues of 8 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Industrial plants, Fertilizers, Management engineering, Fibers (Synthetic), *Synthetic stones, Synthetic rubber, *Polyethylene plastics, *Plastic pipes, *Plastics industry, Materials, Industrial procurement, *Exhaust pipes, *Hoists.

Contents:
Nitrogen fertilizer plant under construction at Grodno, by P. Podkurov
Mismanagement at the Kutaisi lithopone plant eliminated, by G. Bachilava
Construction at Novgorod chemical combine ahead of schedule
Progress at the Engel's artificial and snythetic fiber plant
"Sitall": a new material of construction, by M. Oganesyan
Construction is lagging at the Efremov synthetic rubber plant, by N. Antonov
Large-scale chemical industry in the Kazakh SSR, by V. Tret'yak
Production and application of polyethylene pipe, by L. El'zon
Criminal gang robs the chemical plant imeni Chkalov, by V. Babaev
Belgorod industrial combine exceeds quota, by D. Spektor
Plastics production in the Soviet Union on the increase, by I. Kryauchyunas
100-meter exhaust pipe erected at Kuibishev, by Yu. Vasin
Development of the chemical industry requires special controls, by V. Khor'kov
Material shortage delays construction of chemical enterprises
Chemical industry construction in the Kirgiz SSR
High capacity cranes for the erection of chemical enterprises, by U. Shein
Chemical plant construction at Barnaul, by G. Stepanov and A. Kogan.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 111. 22 Agu 63, 66p.
JPRS: 20770.
Order from OTS $1.75 63-31601

Trans. of Agitator (USSR) 1963, no. 12, p. 52-54; and 16 selected articles from 1963 issues of 9 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Potassium, Deposits, *Fertilizers, *Nylon, *Industrial plants, Construction, *Tires, Electrochemistry, Mining engineering, Fibers (Synthetic), *Petroleum industry, *Plastics industry, Economics.

Contents:
Local potassium deposits in Central Asia should be used as fertilizers, by N. Petrov and A. Abdullaeva
Caprolon: a new polymer, by V. Stantso
Construction of the Cheboksary chemical combine, by N. Gamov
Producers should not let down the Omsk tire workers, by A. Shanturov and others
Lagging construction at the Chirchik electrochemical combine, by V. Popov
Lagging construction of the suburban Moscow mining-chemical combine, by A. Nikolaev and others
The Rustavi synthetic fiber plant requires special attention, by R. Beridze
Progress in the construction of the Karatau mining-concentration combine, by Yu. Shaporev
Balakova chemical combine, by Ya. Filipchenko
Lagging petrochemistry in the Ukraine, by G. Vilesov and V. Sklyar
Large-scale chemical industry in the Ukraine, by G. Vilesov
A powerful production base for the Urals, by Z. Kuchukbaev
Proposed increase in tires
Planning, proportions, and economic effectiveness of tire production, by A. Shakh and P. Al'man
The testing of tires, by N. Yakovchuk
The cost of lack of management in the tire industry, by P. Lokhina and others
Unsatisfactory repair of tires, by I. Bachurin and V. Borisov

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 112. 23 Aug 63, 59p. JPRS: 20781.
Order from OTS $1.75 63-31608

Trans. of Narodnoe Khozyaistvo Uzbekistana (USSR) 1963 [v. 5] no. 5, p. 10-19; Khimicheskie Volokna (USSR) 1963, no. 3, p. 5-8; and 14 selected articles from 1963 issues of 10 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Industrial plants, Construction, Fertilizers, *Industrial procurement, Education, Scientific organizations, *Plastics industry, Synthetic rubber, *Maleic anhydride, Furfuryl alcohols, Power plants (Establishments), *Personnel management, Management engineering, *Petroleum industry, Asia, *Fibers (Synthetic), *Rayon, Viscose, Cellulose acetate, Nylon.

Contents:
Activities of potassium permanganate shop of Rustavi nitrogenous fertilizer plant, by S. Sakvarelidze
Procurement of materials for Rustavi nitrogenous fertilizer plant, by B. Mshvenieradze and others
Employees of paint plant attend study circles, by N. Nikoyan
Construction of Institute of Fine Organic Chemistry, Academy of Sciences ArSSR in Erevan held up by inefficiency, by N. Mateiko
Costly correction of planning errors in the construction of a monomer plant, by V. Khmara
Indifference on part of Barnaul geophysical apparatus plant authorities hinders the development of a plastics shop, by I. Rudakov
Delays in completing power stations affect start-up of chemical plants, by E. Morozov
Karbolit plant extends help to Safonovo plastics plant, by A. Kaidalov
Employment policies of chemical and pharmaceutical plant imeni Karpov, by I. Mayorov
Mismanagement delays the start-up of many chemical plants in Western Urals, by P. Bogatenkov
Prospects for the development of petrochemical industry in Central Asia, by B. Arkannikov
Builders of two synthetic rubber plants enter competition for early start-up, by M. Ryabov and others
Facility for the manufacure of maleic anhydride from furfurol in Riga
A liquid nitrogenous fertilizer plant under construction in Lithuania
Present status and prospective development of the chemical industry in Central Asia, by I. Anisimkin
Construction of the Navoi chemical combine hindered by indifference of sovnarkhoz officials, by N. Kovinev
Use of plastics in the construction industry in Uzbekistan hindered by their high cost, by A. Ashrabov and others
Recent developments in chemical fiber technology, by A. N. Volkov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 114. 10 Sep 63, 87p. JPRS: 20990.
Order from OTS $2.25 63-31711

Trans. of Kommunist Vooruzhennykh Sil (USSR) 1963 [v. 3] no. 12, p. 43-47; Sovetskii Voin (USSR) 1963 [v. 45] no. 9[981] p. 26-27; Starshina-Serzhant (USSR) 1963, no. 1[28] p. 24-25; from Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 6; and 17 selected articles from 1963 issues of 13 Russian newspapers.

DESCRIPTORS: Industrial production, *Chemical industry, *Chemical engineering, *Automation, *Acetyl plastics, *Fertilizers, *Dyes, Printing, Management engineering, Industrial plants, *Agriculture, *Plastics industry, Conferences, *Tires.

Contents:
New horizons for large-scale chemical industry, by V. Titov
The progress of large-scale chemical industry, by O. Khavronin
USSR chemical industry, by I. Pimenov
Automation for the chemical industry, by V. Gogin
New polymer material in machine building, by V. N. Kestel'man and V. P. Ivashkevich
A precise plan for the large-scale chemical industry, by V. Chernogubovskii
Chemistry and yield, by I. Sergeev and others
To Tambov and beyond, by I. Aralichev and B. Moskvin
Unjustifiable self-deception, by A. Shrulev and S. Kuznetsov
Victory and obstacles, by V. Kzhakhov
Miscellaneous articles on the chemical industry
A creative alliance between chemistry, industry, and agriculture, by S. Vol'fkovich

"Little" chemistry invades the home, by P. Nazarov
Notes from the Republic Conference of Party Executives
In chemistry, say less--do more
A new life for old tires, by S. Popov
Komsomol: patrons of chemistry
To new capabilities: a full time job.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL INDUSTRY NO. 116. 23 Sep 63, 70p. JPRS: 21176.
Order from OTS $2.00 63-31805

Trans. of 25 selected articles from 1963 issues of 12 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical industry, *Chemical engineering, *Industrial plants, Construction, *Fibers (Synthetic), Synthetic rubber, Tires, Apatite, Petroleum industry, Natural gas, Rubber, Electrochemistry, Sulfuric acid, *Fertilizers, Formaldehyde, *Plastics industry, Glass textiles, Acetylenes, Conferences, *Natural resorces, *Sea water, Minerals.

Contents:
The future of the chemical industry in the Soviet Union, by N. Baibakov
Production planning at the chemical plant imeni Kuybyshev, by V. Berezovskii
Synthetic fiber problems at the Zavolzhsk fiber plant, by A. Stepanov and I. Katsman
Synthetic rubber plant at Stavropol'
Tire recapping plant at Barnaul
Apatite concentrate plant completed at Murmansk
Petrochemical plant at Kazan'
Gas producing plant at Novokuybyskevsk
New industrial rubber products shop at Vinnitsa, by G. Kirichenko
New shop at the Kemerovo chemical combine, by M. Kryukov
New synthetic rubber plant at Efremov
New tire recapping plant at Samarkand
Problems at the Kedainyai chemical combine, by N. Pavlovich
Chirchik electrochemical combine improves operations
Sulfuric acid plant imeni Frunze raises production
Sumgait petrochemical combine organizes superphosphate production, by P. Savin
The chemical industry of Azerbaidzhan, by R. Ismailov
Formalin production at Kiviili is delayed, by Ya. Ulanen and S. Popov
The present and future of Estonian chemical industry, by A. Kivit
The chemical industry of the Baltics
Glass plastics production in Armenia, by A. Armaganyan
Erevan acetylene plant adds new shop
Problems of the chemical industry in Armenia, by A. Lazaryan
Severodonetsk Conference of Ukrainian Chemists discusses industry problems, by M. Bagrov
Natural resources of the Sivash gulf waters, by F. Ovcharenko and G. Davidov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL MACHINE BUILDING NO. 30. 16 Aug 63, 28p. JPRS: 20681.
Order from OTS $0.75 63-31553

Trans. of Mashinostroitel' (USSR) 1963, no. 6, p. 1-2, 11; Vsesoyuznoe [Khimicheskoe] Obshchestvo. Zhurnal (USSR) 1963, v. 8, no. 3, p. 242-244; and 7 selected articles from 1963 issues of 4 Russian newspapers.

DESCRIPTORS: *Industrial production, *Chemical engineering, *Machines, Construction, *Quality control, Industrial procurement, *Metal coatings, *Pumps, *Compressors, Materials.

Contents:
Technical inspection eliminates waste, by B. Moskvin and V. Zasukhin
Priority to large-scale chemical industry orders
Improved long-range planning at the plants
Apparatus for applying metallized coverings, by V. Isaev
Spare parts crisis for pumps and compressors, by M. Basyrov
Expansion of the variety and improvement of construction materials: the most important task in chemical machine construction, by G. V. Uvarov and I. I. Salamatov
The machine builders lag in chemical machine construction.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CHEMICAL MACHINE BUILDING NO 32. 1 Oct 63, 33p. JPRS: 21271.
Order from OTS $1.00 63-31857

Trans. of Khimicheskoe Mashinostroenie (USSR) 1963 [v. 6] no. 4, p. 1-14 (some excerpts) 42-45; Byulleten' Tekniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 6, p. 39-42 (excerpts); 7 selected articles from Jul-Aug 63 issues of 7 Russian Newspapers; 7 selected short news items from various Russian periodicals.

DESCRIPTORS: *Industrial production, *Chemical engineering, *Machines, Electrical equipment, Filters (Fluid), Industrial plants, Gas turbines, Refrigeration systems, *Chemical industry, Nitrogen, Oxygen, Compressors, Tires, Air conditioning equipment, Heat exchangers, Helium, Ammonia, Storage.

Contents:
A rotor line for making the bodies and bases of electric chucks, by I. B. Mozyrskii and A. F. Listopad
New machines, instruments and apparatus
New machine-building plant in Pavlodar, by G. Purisov and V. Baiderin
Developments at the Nevskii machine-building plant
Activity of the Cherkessk plant for refrigerators
Conditions and prospects for development of the USSR filter industry, by B. N. Borosoglebskii
The new nitrogen-oxygen machine, "VNIIkimash BR-6", by V. S. Gorokhov and others
The helium rotary plate compressors, by V. I. Ardashev
Activity of the Pskov machine building plant
Activities of the Pavlodar machine-building plant
Products of the Osessa "Avtogenmash" plant
Activity of the Riga compressor plant
New compressors of the "Borets" plant
Developments in the chemical machine building industry.

Bennasar, Juan.
NEW PROCESS FOR THE OBTENTION AND FRACTIONATION OF LIQUID AIR. [1963] 11p
Order from SLA $1.60 63-18115

Trans. of Boletin de Informaciones Petroliferas [Yacimientos e Industrias] (Argentina) 1935 [v. 12, no. 125] p. 39-50.

DESCRIPTORS: *Air, *Liquefied gases, Distillation, Fractionation.

Burianek, Josef and Durdik, Frantisek.
DIMENSIONS OF ION EXCHANGERS FOR DECOLORIZING CLAIRCES. 16 Sep 62, 9p. (refs. omitted).
Order from SLA $1.10 63-14076

Trans. of Listy Cukrovar[nicke] (Czechoslovakia) 1960, v. 76, p. 126-129.

DESCRIPTORS: *Ion exchange resins, Purification, Colors, *Carbohydrates, Ion exchange, Refineries.

Finn, W.
ON THE ADHESION PROCESS IN FLOTATION. [1963] 14p (figs. omitted) 6refs
Order from SLA $1.60 63-18549

Trans. of Chemische Technik (East Germany) 1950, v. 2, no. 6, p. 173-178.

DESCRIPTORS: *Flotation (Separation), *Adhesion, Bubbles, Minerals, Surfaces, Mixtures, Colloids, Reagents.

Fraiman, R. S., Syrkin, V. G., and Volkov, V. L.
SEPARATION OF FINELY DISPERSED POWDER FRACTIONS IN A SERIES OF CYCLONES. [1963] 8p
Order from ATS $9.50 ATS-21Q71R

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1961, no. 7, p. 494-498.

DESCRIPTORS: *Powders, Separation, Fractionation, *Cyclones (Mechanical).

Gantman, M. N.
IONEN DIAFRAGMA'S EN METHODES OM DEZE TE TESTEN (Ionitovye Diafragmy i Metody Ikh Ispytaniya) (Ion-Exchanging Diaphragms and Testing Methods). 63p. (foreign text included) 24 refs.
Order from OTS or ETC $2.15 63-26215

Trans. in Dutch of Issledovaniya po Vodopodgotovke (USSR) 1959, no. 3, p. 210-237.

DESCRIPTORS: Diaphragms, *Ion exchange, Electrochemistry, Quality control, *Desalination, Sea water.

Juranek, J.
PLANNING, EXECUTION AND RESULTS OF HEAT TREATING RESERVOIRS OF HIGHLY VISCOUS CRUDE OILS WITH STEAM ON AN INDUSTRIAL SCALE. [1963] 7p
Order from ATS $8.00 ATS-65Q70G

Trans. of unidentified mono. (preprint) Hungarian Acad. Sci., Oil Sci. Sessions, Budapest, 1962. [Proceedings] p. 1-12.

DESCRIPTORS: *Oils, *Heat treatment, Geology, Chemical engineering, Steam, Viscosity, Hydraulic accumulators.

Keil, Walter, Kojer, Hugo, Schmidt, Jürgen, and Winkler, Heinz.
PROCESS AND EQUIPMENT FOR THE CONTINUOUS PRODUCTION OF AQUEOUS POLYMER DISPERSIONS. [1963] [16p]
Order from OTS or SLA $1.60 63-20055

Trans. of German patent 1,137,216, C 24333 IVd/39c, cl. 39 c 25/01, internat'l cl. C 08 f, appl. 9 Jun 61, pub. 27 Sep 62, by Consortium für Elektrochemische Industrie GmbH.

DESCRIPTORS: *Polymers, *Colloids, Production, Polyvinyl alcohol, *Polymerization, Laboratory equipment, Operation, Stirrers, Points, Organic acids, Towers (Chemistry).

Kisarov, V. M., Kolmakov, O. A., and Ryabinin, S. I.
THE EXTRACTION OF BENZENE FROM WASTE GASES BY WASTES FROM THE PRODUCTION OF PHENOL BY THE CUMENE METHOD. [1963] 4p.
Order from ATS $5.50 ATS-81Q68R

Trans. of Khim[icheskaya] Prom[yshlennost'] (USSR) 1962, no. 9, p. 691-692.

DESCRIPTORS: *Waste gases, *Benzenes, Solvent extraction, Wastes (Industrial), *Phenols, *Cumenes.

Kiyoura, R. and Koyanagi, H.
INDUSTRIE CHIMIQUE DE LA FABRICATION DE L'ACIDE SULFURIQUE. CALCULS (4). 3. CALCUL DE LA QUANTITÉ DE SO3 PRODUIT A L'ÉQUILIBRE AU SEIN ET À L'EXTÉRIEUR DU FOUR DE PYROGÉNATION (Manufacture of Sulfuric Acid. Calculations (4) 3. Calculation of the Equilibrium Quantity of Sulfur Trioxide Inside and Outside the Furnace). 14p 10 refs
Order from OTS, ETC or CNRS $0.80 62-26983

Trans. in French of Ryusan (Japan) 1957, v. 10, no. 8, p. 316-320.

DESCRIPTORS: *Sulfuric acid, Production, *Sulfur compounds, Oxides, Chemical equilibrium.

Lenchevskii, O. S.
ELECTROCHEMISCHE DESILICATIE VAN WATER (Elektrokhimicheskoe Obeskremnivanie Vody) (Electrochemical Removal of Silicic Acids from Water). 7p. (foreign text included).
Order from OTS or ETC $0.80 63-26214

Trans. in Dutch of Issledovaniya po Vodopodgotovke (USSR) 1959, no. 3, p. 238-240.

DESCRIPTORS: *Silicic acids, Water, Separation, *Electrochemistry, Installation, Magnesium compounds

Lenchevskii, O. S.
ELECTRO-CHEMISCHE ONTZOUTING VAN WATER OP SEMI-TECHNISCHE SCHAAL (Elektrokhimicheskoe Obessolivanie Vody na Poluproizvodstvennoi Ustanovke) (Electrochemical Desalting of Water at Semi-Technical Scale). 29p. (foreign text included) 4 refs.
Order from OTS or ETC $1.07 63-26216

Trans. in Dutch of Akademiya Stroitel'stva i Arkhitektury SSSR. Institut Vodgeo. Trudy, 1958, p. 155-170.

DESCRIPTORS: *Ion exchange, *Desalination, Electrochemistry, Installation, Iron compounds, Sea water.

Ootsuka, Eiji, Yakabe, Masatoshi, and Yoshimura, Shinji.
METHOD OF RECOVERING MIXED GAS. July 63 [6]p.
Order from SA $16.00 SA Code-P-190

Trans. of published Japanese patent 55/1959, cl. 13-A-3 (16-B-811) appl. no. 4663/1956 filed 27 Feb 56, pub. 17 Jan 59, by Toyo Koatsu Industries, Inc.

DESCRIPTORS: *Urea, Synthesis (Chemistry), *Waste gases, *Ammonia, *Carbon dioxide, Separation, *Distilling plants

Oppelt, Winfried.
REGULATION OF DISTILLATION COLUMNS. [1963] 12p 1ref
Order from SLA $1.60 63-18966

Trans. of Chem[ie]-Ing[enieur]-Technik (West Germany) 1951, v. 23, p. 39-41.

DESCRIPTORS: *Distilling plants, Chemical industry, Material separation, Industrial equipment, *Control, Design, Towers (Chemistry).

Pavlikovski, E. and Bistron, S.
PRÉPARATION INDUSTRIELLE DES SOLUTIONS AQUEUSES DE NITRITE D'AMMONIUM ET LA SÉCURITÉ DE LA PRODUCTION (Manufacture of Aqueous Solutions of Ammonium Nitrate and its Production Security). 15p 16 refs
Order from OTS, ETC or CNRS $0.80 62-26974

Trans. in French of Przemysl Chemiczny (Poland) 1958, v. [14] (37) no. 12, p. 774-777.

DESCRIPTORS: *Ammonium compounds *Nitrites, Solutions, Decomposition, Hydrogen ion concentration, Production, Installation, Carbonates, Nitrogen compounds, Oxides, *Explosions.

Pitskhelauri, E. N., Pospelova, T. A., and Kruglikova, V. S.
DÉSULFURISATION PAR OZONISATION-ADSORPTION DU KÉROSÈNE DE DISTILLATION DIRECTE (Ozonising-Adsorption Desulfuration of Direct Distillation Kerosene). 9p 7 refs FR-2090.
Order from OTS, ETC or CNRS $0.80 62-26953

Trans. in French of Izvestiya Vysshikh Uchebnykh Zavedenii. Neft' i Gaz (USSR) [1961, v. 4] no. 6, p. 81-87.

DESCRIPTORS: Petroleum *Kerosene, Ozone, Adsorption, *Sulfur, Decomposition, IDistillation, *Desulfurization.

Ratte, Heinrich.
DISTILLATION IN SIDE COLUMNS. [1963] 14p
Order from K-H $14.00 K-H 11096

Trans. of Erdöl und Kohle-Erdgas-Petrochemie (West Germany) 1961, v. 14, no. 1, p. 24-26.

DESCRIPTORS: *Distillation, *Towers (Chemistry), Distilling plants.

Riedel, L.
COMPRESSABILITY, SURFACE TENSION AND THERMAL CONDUCTIVITY IN THE LIQUID STATE. [1963] 23p
Order from K-H $23.00 K-H 3663

Trans. of Chemie-Ingenieur-Technik (West Germany) 1955, v. 27, no. 4, p. 209-213.

DESCRIPTORS: *Liquids, *Compressive properties, *Surface tension, *Thermal conductivity.

Robert, J. M. and André, L. M.
PROCESS FOR THE CONTINUOUS EVACUATION OF HOT GASES CONTAINING TITANIUM DIOXIDE, APPARATUS FOR CARRYING OUT THIS PROCESS, AND PRODUCTS OBTAINED. [1963] [14p]
Order from OTS or SLA $1.60 63-18898

Trans. of French patent 1,307,280, internat'l cl. C 01 g, appl. 29 Jul 61, granted 17 Sep 62, by Fabrique de Produits Chimiques de Thann et de Mulhouse (pub. in Bulletin Officiel de la Propriété Industrielle (France) 1962, no. 43).

DESCRIPTORS: *Titanium compounds, Dioxides, *Chlorides, Oxidation, Gases, Combustion chambers, Furnaces, Pipes, Cooling.

Titov, N.
ACCELERATED PRODUCTION OF CHEMICALS PLANNED IN COMMUNIST BLOC. 21 Aug 63, 6p. JPRS: 20753.
Order from OTS $0.50 63-31592

Trans. from Ekonomicheskaya Gazeta (USSR) 1963, no. 25(98) p. 33.

DESCRIPTORS: *Industrial production, *Chemical industry, Chemicals, Industrial plants, Economics.

Wischetrawsky, C.
AMERICAN, BAKU AND GROZNY PETROLEUM EMULSIONS, tr. by S. Berkman. [1962] [80]p.
Order from OTS or SLA $7.60 63-10692

Trans. of Azerbaidzhanskoe Neftyanoe Khozyaistvo (USSR) [1953?] no. 8/9, p. 92ff and no. 10, p. 94ff.

DESCRIPTORS: *Petroleum, *Colloids, *Chemical precipitation, Dehydration, Electrodialysis, Water, Minerals.

Civil Engineering

Heemskerck, W. C. Bischoff van.
FOUNDATION AND SCOUR PROBLEMS ASSOCIATED WITH VARIOUS METHODS OF CLOSING AN ESTUARY. [1963] 20p
Order from ATS $18.75 ATS-69Q71F

Trans. of [la] Houille Blanche (France) 1963, v. 18, no. 2, p. 143-158.

DESCRIPTORS: *Estuaries, *Dams, *Foundations (Structures), *Engineering geology, Civil engineering.

Krylov, S. M. and Zaitsev, Yu. V.
STUDIES OF STRESS REDISTRIBUTION IN CONTINUOUS REINFORCED CONCRETE BEAMS. [1963] [39]p.
Order from OTS or SLA $3.60 63-16982

Trans. of mono. Design of Reinforced Concrete Structures, Moscow, 1961, p. 272-310.

DESCRIPTORS: *Reinforced concrete, *Beams (Structural), Design, *Stresses, *Load distribution, Structural properties, Mathematical analysis, Tests, Experimental data.

Prior to the appearance of first cracks the actual stress distribution in conventionally reinforced, as well as prestressed continuous beams, conforms to the design of the beam as an elastic system with constant stiffness along its length. This method should be recommended for the design of structures working without cracks. In conventionally reinforced beams stress distribution following formation of cracks as a rule differs substantially from the results of design as an elastic system. Stress distribution in beams subsequent to formation of cracks can be determined very accurately by the method of successive approximations. Use of computers presents excellent possibilities in this connection. At the moment when the load-bearing capacity is exhausted in conventionally reinforced, as well as prestressed beams, reinforced with hot-rolled steel, full stress redistribution takes place, if the beam sections are sufficiently far from being overreinforced. This permits the use of the ultimate strength method in designing such structures. Consideration of work hardening of the reinforcement permits a different approach to the determination of the load-bearing capacity of a structure. (Author)

Vyalov, S. S.
CREEP AND FATIGUE STRENGTH OF FROZEN SOILS, tr. by L. Mote, 11p 8refs MTWL-1138.
Order from OTS or ETC $0.80 63-26592

Trans. of Akademiya Nauk SSSR. Doklady, 1955, v. 104, no. 6, p. 850-853.
Other translations are available from NRCC as NRCC C-2365 and from OTS or SLA $1.10 ea. as 62-20391 and 62-25919, TRC trans-1064.

DESCRIPTORS: *Soils, Freezing, Structural properties, Creep, Fatigue (mechanics), Mechanical properties, *Stresses, Deformation, *Soil mechanics.

Vyalov, S. S.
INVESTIGATION OF THE COHESION FORCES OF FROZEN SOILS, tr. by L. Mote. 43p. MTWL-1135.
Order from OTS or ETC $1.50 63-26589

Trans. of Russian language mono. Moscow, 1959, p. 35-55.

DESCRIPTORS: *Soils, Freezing, Power, Experimental data, *Soils mechanics.

Electrical and Electronic Engineering

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 77 (ELECTRICAL POWER, RADIO ENGINEERING, TELECOMMUNICATIONS AND ELECTRONICS). 1 July 63, 9p. JPRS: 19975.
Order from OTS $0.50 63-31179

Trans. of selected abstracts from Referativnyi Zhurnal. Elektronika i Ee Primenenie (USSR) 1963, no. 3; Referativnyi Zhurnal. Elektrotekhnika i Energetika (USSR) 1963, no. 2; Referativnyi Zhurnal. Radiotekhnika i Elektrosvyaz' (USSR) 1963, no. 2.

DESCRIPTORS: *Abstracts, *China, *Electronics, *Power equipment, *Turbine parts, *Electric motors, *Electrical engineering, *Diodes (Semiconductors), *Germanium alloys, *Selenium alloys, Intermetallic compounds, *Soils, Ultrasonic properties, *Semiconductor devices.

ASYNCHRONOUS ACTIONS: ANNOTATED BIBLIOGRAPHY 1958-62. AID report on Work Assignment no. 43. 14 June 63 [13]p. 28 refs. AID Rept. B-63-84.
Order from OTS or SLA $1.60 63-19967

DESCRIPTORS: *Bibliographies, *Synchros, Servomechanisms, *Synchronization (Electronics).

HERALD OF COMMUNICATIONS, 1963 [VOL. 23] NO. 5(278). 10 Sep 63, 147p. JPRS: 21009.
Order from OTS $3.00 63-31722

Trans. of #Vestnik Svyazi (USSR) 1963 [v. 23] no. 5(278) p. 1-34 including covers.

DESCRIPTORS: *Communication systems, Sound reproduction systems, Radio receivers, Telegraph equipment, Television communication systems, Radio broadcasting, Televsion antennas, Video signals, Television transmitters, Distortion, Meters, Telephone communication systems, High frequency, Multiplex, Transports, Reliability (Electronics), Corrosion inhibition, Telegraph systems, Intercommunication systems, Automation, Postal systems, Personnel management, Labor, Television receivers, Maintenance Reviews.

Contents:
For the further progress of radio-communication, radio-broadcasting and television facilities (editorial)
A new television transmitting antenna, by E. R. Milyutin and E. E. Antonov
Reduction of alternating-current interference in the coaxial lines for the transmission of television signal by means of video spectrum, by N. V. Vinogradov and O. V. Evnevichchekan
On some possibilities of using nonlinear-distortion meter S6-1 (INI-12) by B. G. Kaduk
Method of selecting in the cables of city telephone exchanges (GTS) the pairs suitable for high-frequency multiplexing, by A. D. Ruga and E. V. Kostyanets
An automatic device for the protection of city underground installations from corrosion caused by stray currents, by V. A. Lomanovich and I. S. Oganezova
Introduction of three-program broadcasting, by I. I. Sazono
Organization of direct connections on the telegraph network of Belo-russian SSR, by M. A. Zamostina
Experience in the operation of KRR-30/60 equipment, by A. T. Oleinik and Z. I. Yablonskii
Mechanization of production processes at Sverdlovsk OPP/mail transport department/ by A. S. Raikhel'gauz
Organization and improvement of communication service for production administrations, by D. A. Mednikov
Reorganization of postal service under new conditions, by A. Ya. Kucha
Construction of telephone intercommunication facilities in Kolkhozes and Sovkhozes, by A. M. Petrov
The size of production staff at operating communications enterprises should be standardized properly, by G. A. Dedikov
We are striving for better service to the population, by V. S. Davydov
We are competing for high quality of the repairs of television and radio receivers, by E. A. Vasil'ev
Kiev television center has won a high title, by K. A. Alekseev
On the occasion of radio day
Radio and television: to Soviet people

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 68. 14 Aug 63, 20p. JPRS: 20652.
Order from OTS $0.75 63-31538

Trans. of Energetik (USSR) 1963 [v. 11] no. 5, p. 45 and 10 selected articles from 1963 issues of 7 Russian newspapers.

DESCRIPTORS: *Industrial production, *Electrical equipment, *Personnel management, *Gas turbines, Electric cables, Electric insulation, *Fibers (Synthetic), *Capacitors, *Induction motors, Turbines, *Generators, *Transformers, Management engineering, Electric motors, Phase transformers, *Circuit breakers.

Contents:
Poor work on second and third shifts of a Smolensk and a Safonovo plant
New gas turbine at Neva machine-building plant
Lavsan insulation begun at the "Moskabel" plant
50-MVA synchronous condenser built by the "Uralelektroapparat" plant
8,000-kw induction motor built by the Novosibirsk turbine generator plant, by B. Evladov
165-mw turbine generator being built by the "Elektrosila" plant
Why the Baku dry transformer plant operates at a loss, by V. Dimitrov
"Elektrosila" building "small" machines
750-kv equipment built by "Elektroapparat" plant
Electromechanical plant in Tadzhikistan, by S. Alekseev
New transformers, autotransformers, and spring-operated mechanisms being built by Armelektrozavod.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 70. 19 Aug 63, 28p. JPRS: 20710.
Order from OTS $0.75 63-31568

Trans. of 15 selected articles from 1963 issues of 11 Russian newspapers.

DESCRIPTORS: *Industrial production, *Electrical equipment, *Transportation, Electric cables, Electric wire, *Generators, Kitchen equipment and supplies, *Power transformers, Personnel relations, Electric motors, Automation, *Paints, Protective treatments, Lighting equipment, *Steam turbines, Maintenance, *Industrial equipment, Magnetic materials.

Contents:
Red tape in the shipping of electrical machinery from Yaroslavl' to Irkutsk, by N. Vorob'ev
Progress at the Dushanbe Tadzhikkabel' plant, by M. Savel'ev
New synchronous generators are developed in Aremenia
Criticism of the operations of the Krasnii metallist plant, by N. Chikinov
News and notes from the electrical equipment industry
New type transformer developed in Armenia, by A. Tigranyan
Trouble at the Novosibirsk turbogenerator plant
New contactless electric motor is developed in Latvia, by V. Abramov

Automating the Moscow searchlight plant, by E. Rozenblit
Introducing new paints at the Moscow searchlight plant, by L. Markova
Increasing production at the Moscow Elektrosvet plant, by A. Otrezaev
Building a transformer shop in Stavropol'-on-Volga
The Elektrosila plant builds a 300,000-kilowatt turbogenerator
Advertisement for repair of electrical equipment and appliances
Expedite the delivery of magnetic sets from Angarsk, by M. Shevchenko.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 71. 26 Aug 63, 8p. 2 refs. JPRS: 20800.
Order from OTS $0.50 63-31618

Trans. of Promyshlennaya Energetika (USSR) 1963 [v. 18] no. 6, p. 11-13, 49-50.

DESCRIPTORS: *Industrial production, *Electrical equipment, *Electric motors, Maintenance, Reliability, Motor starters, Electric insulation, Transformers, Electric switches.

Contents:
Improvement needed in electrical machine performance, by L. S. Rodshtein
Production of various electrical devices.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 73. 5 Sep 63, 21p. JPRS: 20933.
Order from OTS $0.75 63-31678

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 5, p. 14-18, 36-43.

DESCRIPTORS: *Industrial production, *Electrical equipment, Welding, Machines, *Boilers, Furnaces, *Steam power plants, *Storage batteries, Stainless steel, Welds.

Contents:
The MSMZ-150 welder for boiler pipe coils, by L. M. Ivanova
Heat recovery in open-hearth furnaces and soaking pits of ferrous metallurgy, by I. I. Bruk
Automatic assembly of electrode plate blocks for alkaline storage batteries, by V. G. Berezhninskii and A. F. Tokarev
MShRG-75 seam welder for stainless steel motor sleeves, by A. M. Mirkin and D. S. Faigenbaum.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 74. 6 Sep 63, 22p. JPRS: 20947.
Order from OTS $0.75 63-31687

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 6, p. 38-39; Energetik (USSR) 1963 [v. 11] no. 7, p. 31-32; Svetotekhnika (USSR) 1963 [v. 9] no. 7, p. 27-29, 32; and 14 selected articles from 1963 issues of 9 Russian newspapers.

DESCRIPTORS: *Industrial production, *Electrical equipment, Electrical engineering, Electric switches, *Lighting equipment, *Electric motors, Electrical industry, Electric relays.

Contents:
Electric-power engineer's reference book
Electric bulbs with diffuse reflectors, by A. I. Chushkin
Articles made by the illumination engineering industry: ceiling many-bulb luminescent illuninants of the PML type
Asynchronous short-circuited motor with ventilated frame DaZ01810-10/12-6000
The poor state of Azerbaidzhan electrical light industry, by M. Pleskachevskii
Electric power industry: new modifications of SR series relays, by D. M. Zektser
Newspaper items on Soviet electrical equipment.

USSR INDUSTRIAL DEVELOPMENT: SOVIET ELECTRICAL EQUIPMENT NO. 75. 11 Sep 63, 46p. JPRS: 21018.
Order from OTS $1.25 63-31727

Trans. of Standartizatsiya (USSR) 1963 [v. 27] no. 6, p. 51-52; Tekhnika Kino i Televideniya (USSR) 1963 [v. 7] no. 7, p. 92-94; and 22 selected articles from 1963 issues of 14 Russian newspapers.

DESCRIPTORS: *Industrial production, *Electrical equipment, Vacuum cleaners, *Generators, Maintenance, Personnel management, Industrial plants, Labor, Machine tools, *Electric motors, Transmission lines, *Electric cables, Industrial relations, Induction motors, Motor starters, Control panels, Lighting equipment, *Transformers, Conferences, Quality control.

Contents:
The Vil'nyus electric welding equipment plant makes vacuum cleaners
The Minsk electric repair plant accepts high-voltage electric generators for repair
The Riga "Latvenergo" experimental plant offers steady work to engineers and skilled workmen
The Cheboksary electric equipment plant collective improves labor methods
The Mogilev "Elektrodvigatel'" plant replaces obsolescent equipment
The Kishinev electromechanical plant and the Soroki "Elektrobytpribor" plant plan to raise output next year
The Leningrad "Elektrosila" plant to furnish hydrogenerators ahead of schedule
The Armenian electromachine building plant imeni V. I. Lenin starts production of "DAZO-19" motors
750 kilovolt Konakovo-Moscow transmission line being built
The Riga electromachine building plant and the Vil'nyus "El'fa" electrotechnical plant collective exchange experiences, by G. Starokonstantinovskii
The "Elektromashina" plant needs engineers and skilled labor
Cable plant not permitted to use cable waste for a useful purpose, by L. Kozlov
The Riga electromachine building plant collective makes plans for 1964-65, by M. Fesenko
The Tashkent electromechanical plant collective will fill order of Chirchik chemical combine ahead of schedule

New electric products plant opens at Kurgan
Main building of Panevezhis "Litkabel'" plant completed
Dushanbe machine building plant needs skilled workers
The "Kuzbasselektromotor" electromechanical plant accepts orders for induction motors, starters and controllers
The "Svetotekhnika" plant makes the SVP-300a and SPP-200 lamps to order
The Armavir electrotechnical plant accepts orders for induction motors
The Stepanavan high-frequency equipment plant has transformers for sale
All-Union Scientific Conference (no. 19) dedicates session to radio day
Last hydrogenerator for Votkinskaya hydroelectric power station completed
Controlling quality of explosion-proof electrical equipment, by F. M. Akkerman and B. P. Ribko.

Backhaus, K.
INVESTIGATIONS ON THE ELECTRIC CONDUCTIVITY OF SOME BASIC MATERIALS, BINDERS, AND THEIR MIXTURES, FOR THE PRODUCTION OF INSULATING MATERIAL FOR ELECTRIC HEATING UNITS (Untersuchungen über die Elektrische Leitfähigkeit einiger Grundstoffe, Bindemittel und ihrer Mischungen zur Herstellung von Isoliermassen für Elektr. Heizkörper). [1963] [18p] (foreign text included)
Order from SLA $1.60 63-18569

Trans. of Elektrowärme (Germany) 1938 [v. 8] no. 10, p. 261-266.

DESCRIPTORS: *Electrical conductance, Materials, Binders, Mixtures, *Insulating materials, Production, *Electric insulation, Heaters, Electrical equipment

Baev, V. A., Palastin, L. M., and Chesnokov, A. I.
DISC-TYPE ADJUSTABLE MACHINES WITH PRINTED ARMATURE WINDINGS AND PERMANENT MAGNETS. [1962] 8p. 2 refs.
Order from RIS $14.00 RIS E-770

Trans. of [Vestnik Elektropromyshlennosti] (USSR) 1960 [v. 31, no. 7] p. 24-28.

DESCRIPTORS: *Power equipment, *Armatures, *Magnets, *Printed circuits, Electric motors, Direct current.

Borovkov, S. P., Dugin, A. I., and Terekhin, F. V.
THE ASYNCHRONOUS STARTING OF A 50-MW, 1500 R. P. M. (Asinkronnyi Pusk Turbogeneratora 50 Mvt, 1500 Ob/min). 1 May 62 [8]p. (foreign text included). Trafford Park trans. no. 3106; [DSIR] NLL M. 3799.
Order from OTS or SLA $1.10 63-19763

Trans. of Elekt[richeskie] Stantsii (USSR) 1961 [v. 32] no. 10, p. 84-86.

DESCRIPTORS: *Turbines, *Generators, Starting, Determination, Tests, *Electric power production.

A description is given of three asynchronous starting tests on a high-power turbo-generator to determine the starting parameters and the thermal and dynamic resistance. (A. E. I. abstract)

Bricka, M. and Bruck, H.
CONCERNING A NEW ELECTRON GUN FOR HIGH VOLTAGE TUBES. [1962] 9p
Order from K-H $11.25 K-H 6688

Trans. of Annales de Radioélectricité (France) 1948, v. 3 [no. 14] p. 339-343.
Another trans. is available from SLA $1.60 as 62-18566 [1962] 13p.

DESCRIPTORS: Cathode ray tubes, *Electron guns, Design, Resolution, *Electron microscopes, *Diffraction analysis.

For abstract see Technical Translations 10: 57, 1963.

Golodaev, B. G.
METHOD OF AMPLIFYING EXTREMELY SHORT ELECTRICAL PULSES WITH A LOW REPETITION FREQUENCY USED IN ULTRASONIC ECHO FLAW DETECTION (Sposob Usileniya Predel'no Korotkikh Elektricheskikh Impul'sov s Nizkoi Chastotoi Sledovaniya, Primenyaemykh v Ul'trazvukovoi Ekhodefektoskopii) tr. by H. H. 6 June 63, 3p. I-2597.
Order from OTS $0.50 63-11669

Trans. of Russian patent 149934, cl. 42^k 46_{06}, announced 5 Oct 61, under 74610/26-10, pub. 1 Oct 62 (pub. in Byulleten' Izobretenii (USSR) 1962, no. 17).

DESCRIPTORS: *Pulse amplifiers, Ultrasonic equipment, Frequency, Superhigh frequency, Detection.

The invention concerns a method of amplifying very short electrical pulses with a low repetition frequency used in ultrasonic echo flaw detection characterized by the fact that in order to get distortion-free amplification the pulses are first converted into superhigh frequency pulses, amplified, and then detected. (Author)

Guk, Yu. B.
THE APPLICATION OF CERTAIN PROPOSITIONS OF CYBERNETICS TO THE PROBLEMS OF CONTROLLING THE POWER SYSTEM UNDER EMERGENCY CONDITIONS. 29 Aug 63, 12p. 2 refs. JPRS: 20835.
Order from OTS $0.50 63-31638

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Energetika (USSR) 1963 [v. 6] no. 5, p. 1-7.

DESCRIPTORS: *Cybernetics, *Power equipment, *Control systems, Reliability (Electronics), Entropy, Functions.

The application of the concepts of the entropy of state of an installation as a description of unreliability and the entropy of the functions of antifailure automatic equipment as a description of the complexity of a control system permits, as is shown by examples, to understand the complex problems of power system control under emergency conditions. A further development and application of these concepts, as well as general laws connecting them, is only a question of time. (Author)

Gusev, Vladimir Petrovich.
TECHNOLOGY OF THE PRODUCTION OF RADIO-ELECTRONIC EQUIPMENT. 26 Sep 63, 334p 72 refs JPRS: 21222.
Order from OTS $5.00 63-31826

Trans. of mono. Tekhnologiya Proizvodstva Radioelektronnoi Apparatury, Moscow, 1961, 388p.

DESCRIPTORS: *Industrial production, *Radio equipment, *Electronic equipment, *Manufacturing methods, Test equipment (Electronics), Protective coverings, Plastics, Ceramic materials, Coils, Capacitors, Resistors, Delay lines, Microwave equipment, Printed circuits, Bibliographies.

The book discusses the basic technological processes that are characteristic of the production of radio-electronic equipment. Described are the methods of manufacturing the individual components, of their assembly and mounting, and of the adjustment of the equipment. Theoretical considerations concerning the effects of production errors upon the output characteristics of the equipment are presented. (Soviet editor's note)

Henniger, H. and others.
PROCESS AND DEVICE FOR THE PRODUCTION OF METAL LAYER RESISTANCES. Aug 63.
Order from TTIS $7.20 TTIS NS 119

Trans. of East German patent 24,904, appl. 9 July 60, pub. 26 Mar 63.

DESCRIPTORS: *Metals, *Resistance (Electrical), *Dielectric films.

Mizyuk, L. Ya.
METHODS OF INTERFERENCE PROTECTION IN MEASURING HARMONIC SIGNALS WITH VARYING PHASE. [1963] 31p. 3 refs.
Order from OTS or SLA $3.60 63-18011

Trans. of Akademiya Nauk SSSR. Sibirskoe Otdelenie. Izvestiya, 1961, no. 8, p. 22-35.

DESCRIPTORS: *Measuring devices (Electrical and Electronic), Radio signals, Phase measurement, Radio interference, *Harmonic analysis, Signals, Wave transmission, Correlation techniques.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
PAPER CAPACITORS: Jul 63, 9p 56refs
OTS Selective Bibliography SB-516
Order from OTS $0.10 OTS SB-516

DESCRIPTORS: *Capacitors, *Paper capacitors, Paper, Manufacturing methods, Tests, Radiation effects, *Bibliographies.

Lists 56 references to foreign and domestic research on paper capacitors added to the OTS collection up to July 1963. Covers research on metallized paper capacitors, paper-mylar capacitors, vibration tests, lifetime tests, subminiature capacitors, capacitors for nuclear environments. (Author)

Poskrobko, A. A., Vasynkov, O. A., and Sokut, L. D.
THE H62 A. C. LOCOMOTIVE WITH SILICON RECTIFIERS (Elektrovoz Peremennogo Toka H62 s Kremniavymi Vypryamitelyami). 16 Apr 62 [34]p.
Trafford Park trans. no. 3072; [DSIR] NLL M. 3802.
Order from OTS or SLA $3.60 63-19760

Trans. of Elekt[richeskaya] i Teplovoz[naya] Tyaga (USSR) 1961 [v. 5] no. 7, p. 28-35.

DESCRIPTORS: *Locomotives, Alternating current, *Rectifiers, Silicon, Cooling, Power, Circuits, Control.

Topics include: The cooling system; power circuit and auxiliary circuit system; control circuit system; control of the electric locomotive; and the protection system.

Rakov, V. I.
INDICATOR DEVICES FOR RADAR STATIONS. 30 Sep 63, 1041p 30 refs JPRS: 21261.
Order from OTS $11.50 63-31847

Trans. of mono. Indikatornye Ustroistva Radiolokatsionnykh Stantsii, Leningrad, 1962, 532p.
A partial trans. (p. 205-208) is available from OTS $0.50 as 63-21424, JPRS-18362, 26 Mar 63 [8]p.

DESCRIPTORS: *Radar stations, Radar pulses, Radar scanning, Radar tracking, *Noise (Radar), Radar targets, Detection, Probability, *Radar equipment, *Cathode ray tubes screens, Plan position indicators, Ion bombardment, *Radar images, *Range finding, *Position indicators, Operation, Design.

The book considers a set of problems pertaining to methods of detection and indication of signals in pulsed radar stations. Methods are developed for the determination of the coordinates and the three-dimensional scanning, method of separating signals against the background of noise, properties of cathode-ray tubes, principles of indication, ways of realization and properties of different types of indicator devices. In investigating indicator devices, depending on the required type of display, a functional diagram is developed for each case, the control voltages applied to the tubes are determined, and the indicator parameters are estimated. The book considers the possibility of using in indicators special cathode-ray tubes with charge accumulation, with marking indication, with color pictures, etc. (Author)

Schnitger, H.
THE MEASUREMENT OF RESIDUAL GAS PRESSURE IN TRAVELING-WAVE TUBES. [1963] 14p
Order from ATS $18.75 ATS-16Q71G

Trans. from Vakuum-Techn[ik] (West Germany) 1962, v. 11, no. 3.

DESCRIPTORS: *Electron tubes, *Traveling wave tubes, Vacuum apparatus, Gases, Pressure, Measurement.

Schlitze, H. J. and Heyge, G.
STUDY OF THE APPLICATION OF THE ION BAFFLE IN THE PRODUCTION OF ELECTRON TUBES. [1962] 22p. 11 refs.
Order from SLA $2.60 62-16590

Trans. of Vakuum-Technik (West Germany) 1961, v. 10, no. 4, p. 100-105.

DESCRIPTORS: *Ions, Production, *Electron tubes, *Vacuum pumps, Test methods, Design, Cathodes (Electron tubes).

The ultimate vacuum of the auxiliary pumps used to evacuate electron tubes can be lowered by about one order of magnitude when an ion baffle is connected between pump and tube. The final pressure of about 10^{-4} Torr obtained with such a pump arrangement resulted in an improvement of the emissive power of the cathodes and lower scattering of the tube characteristic values, particularly during the aging. (Author)

Shumilova, E.
IMPROVE PRODUCTION OF REFRIGERATORS AND OTHER ELECTRICAL APPLIANCES. USSR Industrial Development: Soviet Electrical Equipment No. 69. 19 Aug 63, 11p. JPRS: 20690.
Order from OTS $0.50 63-31559

Trans. of Sovetskaya Torgovlya (USSR) 1963 [v. 36] no. 6, p. 18-21.

DESCRIPTORS: Industrial production, Electrical equipment, *Refrigeration systems, *Kitchen equipment and supplies.

Tsukernik, L. V.
LYAPUNOV'S GENERAL THEORY OF STABILITY AND QUESTIONS OF POWER STABILITY (Obshchaya Teoriya Ustoichivosti Lyapunova i Voprosy Ustoichivosti Energeticheskikh Sistem) tr. by V. Burdon. 31 May 61 [10]p. Trafford Park Trans. no. 2882; [DSIR] NLL M. 3460.
Order from OTS or SLA $1.10 62-24897

Trans. of Elektrichestvo (USSR) 1959, no. 1, p. 13-17.

DESCRIPTORS: *Stability, Alternating current, Power supplies, Synchros, Equations of motion, Theory, Mathematical analysis, *Power equipment.

An account of the principal definitions introduced by Lyapunov in his theory of stability and the development of this theory by Soviet scientists. (AEI abstract)

Vinokurov, V. I.
ON THE SENSITIVITY OF A CORRELATION RADIOMETER. [1963] 8p. 5 refs. [DSIR] NLL M. 10046.
Order from OTS or SLA $1.10 63-23346

Trans. of [Elektrotekhnicheskii Institut] Leningrad. [Izvestiya] (USSR) 1959, no. 38, p. 175-186.

DESCRIPTORS: *Correlators, *Radiometer, Sensitivity, Oscillation, Signal-to-noise ratio, Amplifiers, Circuits, Radio receivers, Mathematical analysis.

Wangenstein, H.
TRANSISTORIZING OF COMMERCIAL TELEPHONE SETS. [1963] 22p
Order from SLA $2.60 63-18922

Trans. of Telektronikk (Norway) 1959, no. 1/2, p. 19-28.

DESCRIPTORS: *Transistors, *Telephone equipment, Carbon, Microphones, Amplifiers, Circuits, Design, *Transistor amplifiers.

Ordnance, Missiles, and Satellite Vehicles

FUEL FOR EXPLOSIVES. [1963] 7p
Order from OTS or SLA $1.10 63-18656

Trans. of Norweigian patent 20,993, pub. 9 Jan 11, pat. from 2 Jun 10.

DESCRIPTORS: *Explosive materials, *Fuels, Nitro radicals, Toluenes, Nitrobenzenes, Azo radicals, Phenyl radicals, Nitration, Plastics, Flour, Ammonium radicals, Perchlorates, Potassium compounds, Chlorates.

Beletskii, V. V.
THE ORBIT OF THE EQUATORIAL EARTH SATELLITE. [1963] [14p] 8refs
Order from OTS or SLA $1.60 63-18703

Trans. of [Iskusstvennye Sputnik Zemli] (USSR) 1962, v. 13, p. 53-60.
Another trans. is available from OTS or SLA $12.50 in 63-19536, ACIC TC-590, Apr 63 [173p].

DESCRIPTORS: *Satellites (Artificial), *Equatorial orbit trajectories, *Equations of motion, Partial differential equations, Mathematical analysis.

The note deals with the investigation of the property of the trajectory for the equatorial Earth satellite and the behavior of the osculating orbital elements and presents certain principal characteristics of the motion. (Translator)

Kalitsin, N. S.
COSMIC FLIGHTS AND SCIENCE. 17 July 63, 3p.
JPRS: 20212.
Order from OTS $0.50 63-31309

Trans. from Rabotnichesko Delo (Bulgaria) 1963, 25 June, p. 3.

DESCRIPTORS: *Space flight, *Earth, *Cloud cover, *Telemetering data, Telescopes, Science

The scientific experiments carried aboard the space capsules of cosmonauts Bikovski and Tereshkova are briefly described. These included observations with an optical telescope, systematic observations of the earth and its cloud cover, and a comparative study of biotelemetry data. Speculations as to the possible nature of future investigations are given.

Kislik, M. D.
THE ANALYSIS OF INTEGRALS IN THE EQUATIONS OF MOTION OF AN ARTIFICIAL SATELLITE IN A NORMAL GRAVITY FIELD OF THE EARTH (CONTINUATION). [1963] [46p] 8refs
Order from OTS or SLA $4.60 63-18704

Trans. of [Iskusstvennye Sputniki Zemli] (USSR) 1962, v. 13, p. 23-52.
Another trans. is available from OTS or SLA $12.50 in 63-19536, ACIC TC-590, Apr 63 [173p].

DESCRIPTORS: *Satellites (Artificial), *Orbital trajectories, *Gravity, Earth, *Equations of motions, Integrals, Elliptical orbit trajectories, Mathematical analysis.

The study results are in a form which may be readily used for calculation of the orbit on electronic computers. The qualitative singularities of the motion can easily be singled out. (Translator)
(See also 63-10312)

Letov, A. M.
AUTOMATION IN COSMIC NAVIGATION, 26 July 63 [6]p. FTD-TT-63-608.
Order from OTS or SLA $1.10 63-23671

Unedited rough draft trans. of Nauka i Zhizn' (USSR) 1962 [v. 29] no. 11, p. 28-29.

DESCRIPTORS: Automation, *Space navigation, *Navigation, *Gyroscopes, Errors, Spacecraft, Inertial navigation, Instrumentation, Design.

Sibiryakov, G. S.
USSR PROTESTS UNITED STATES "SPACE NEEDLE" PROJECT. 19 Sep 63, 3p JPRS: 21142.
Order from OTS $0.50 63-31787

Trans. of Priroda (USSR) 1963 [v. 52] no. 6, p. 109-111.

DESCRIPTORS: *Space communication systems, *Satellites (Artificial), Communication systems, Radio waves, Copper, Dipole antennas.

Sanitation and Safety Engineering

Bornmann, G. and Loeser, A.
THE CHRONIC EFFECT OF DODECYLBENZENE-SULFONATE: A CONTRIBUTION TO THE "DETERGENT AND WATER" PROBLEM. [1963] 2p.
Order from ATS $4.00 ATS-96Q70G

Trans. of Z[eitschrift für] Lebensm[ittel]-Untersuch-[ung] und -Forsch[ung] (West Germany) 1962, v. 118, no. 1, p. 51-52.

DESCRIPTORS: Water, Cleaning compounds, *Benzenes, *Sulfonates.

Jankovic, S.
STUDY OF THE CAPACITY OF CERTAIN JUGOSLAVIAN SEMI-COKES FOR ABSORBING PHENOLS AND THE POSSIBILITY OF USING THEM FOR THE DEPHENOLISATION OF INDUSTRIAL WASTE WATERS. Oct 62.
Order from BISI £2 BISI-3004

Trans. of Air and Water Pollution (U. S.) 1962, v. 6, May/Aug, p. 277-282.

DESCRIPTORS: *Wastes (Industrial), *Phenols, *Water, *Coke, Absorption (Physical), *Sanitary engineering, Vaporization, Oxidation, Absorption (Biological), Organic solvents, Adsorption.

Safyullin, N. Ch. and Olevinski, M. I.
NEUTRALISATION DES GAZ DE SORTIE DES FOURS DE FABRICATION D'ACIDE SULFURIQUE (Neutralization of the Exhaust Gases from the Kilns in the Manufacture of Sulfuric Acid). 16p.
Order from OTS, ETC or CNRS $0.80 62-26997

Trans. in French of unidentified Russian language article, n. d.

DESCRIPTORS: *Sulfuric acid, Production, Gases, Nitrogen compounds, Oxides, *Aerosols, Atmosphere, Absorption, Installation, Electrostatic precipitation, Purification.

Zenkov, N. and Svetashev, I.
PRECISION – QUALITY. [1963] 3p.
Order from OTS or SLA $1.10 63-18504

Trans. from [Pozharnoe Delo] (USSR) 1962 [v. 8, no. 10, p. 12].

DESCRIPTORS: *Construction materials industry, *Reinforced concrete, *Structural parts, *Concrete, Prefabricated buildings, *Fire safety, Standards, Quality control

A survey is made of a number of precasting concrete plants to determine in how far they satisfy the requirements of fire safety in their products. This check consisted in determining the actual thickness of the protective cover over working reinforcement in precast flexural units of reinforced concrete (panels, slabs, frame beams, etc.) and establishing the variations of these thicknesses from those specified in design. (Author)

FOOD, HANDLING, AND PACKAGING EQUIPMENT

Fujihara.
GAZEIFICATION DU PÉTROLE PAR LE PROCÉDÉ ORIA-GEGI (Petroleum Gasification by the Oria-Gegi Process) 9p. FX-278.
Order from OTS, ETC or CNRS $0.80 62-26882

Trans. in French of Nihon Gasu Kyokaishi (Japan) 1958, v. 11, no. 8.

DESCRIPTORS: *Petroleum, *Gases, Production, Installation.

Marchal.
CONCERNING POSSIBLE UTILIZATION OF CALCINED MAGNESIA IN THE PRODUCTION OF GRAINS AGAINST WEEVILS. [1963] 4p
Order from SLA $1.10 63-18118

Trans. of Académie d'Agriculture de France. Comptes Rendus des Séances, 1938, v. 24, p. 669-672.

DESCRIPTORS: Calcium compounds, Magnesium compounds, *Cereals, *Pest control, *Coleoptera, Insecticides

Mroczkowski, S. and Ziombski, H.
CHEMICAL AND BIOCHEMICAL CHANGES IN LARD USED FOR COMMERCIAL DEEP-FAT FRYING OF DOUGHNUTS AND FRITTERS. PT. I. CHEMICAL CHANGES. [1963] 7p.
Order from ATS $11.50 ATS-19Q71P

Trans. of Roczniki Panstwowego Zakladu Hig[ieny] (Poland) 1962, v. 13, no. 2, p. 175-182.

DESCRIPTORS: Chemical reactions, Biochemistry, *Fats, Kitchen equipment and supplies, Bakery products.

Rubin, B. A.
THE BIOCHEMICAL PRINCIPLES OF THE PRESERVATION OF VEGETABLES AND FRUITS, tr. by V. Beak. Jan 61 [21]p.
Order from OTS or SLA $2.60 63-19731

Trans. of Akademiya Nauk SSSR. Vestnik, 1954 [v. 24] no. 10, p. 48-56.

DESCRIPTORS: Biochemistry, Food, Preservation, *Vegetables, *Fruits.

MACHINERY, FABRICATION, AND ACCESSORY EQUIPMENT

USSR INDUSTRIAL DEVELOPMENT: SOVIET CONSTRUCTION MACHINERY NO. 38. 20 Aug 63, 35p. JPRS: 20728.
Order from OTS $1.00 63-31579

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 5, p. 10-11; Na Stroikakh Rossii (USSR) 1963, no. 5, inside front cover; Partiinaya Zhizn' (USSR) 1963, no. 5, p. 73; Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 4, p. 43-44; and 9 selected articles from 1963 issues of 9 Russian newspapers.

DESCRIPTORS: *Industrial production, *Machines, *Construction, *Bulldozers, Drilling machines, *Pumps, Centrifugal pumps, *Centrifuges, Personnel relations, *Personnel management, Machine tools, Trailers, Cargo vehicles, *Industrial equipment, *Conveyors, *Hoists

Contents:
Bulldozer for operation in the far north, by P. Gurov
The vibrating drill
Pumps manufactured by the Erevan hydraulic pump plant
The vibrating horizontal centrifuge VG1, by N. V. Krasnikov and Z. G. Chunts
Production shortcomings, by P. Gurov and N. Kuleshov
Plant checks abuses of electric power
Two-shift operation of machine tools, by S. Forisenkov
Introduction of engineering developments delayed
First 120 trailer produced, by A. Chereshnev
Uralmash: the greatest plant of all
New electric vibrating bunker, by A. Siukaev
Difficulties in filling order for rakes, by G. Sharikov
Standardization of cranes needed
Directors are "deaf" to requests for machinery.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CONSTRUCTION MACHINERY NO. 39. 30 Aug 63, 37p. JPRS: 20877.
Order from OTS $1.00 63-31660

Trans. of Stroitel'nye i Dorozhnye Mashiny (USSR) 1963 [v. 8] no. 7, p. 1-13, 16-20, 32.

DESCRIPTORS: *Industrial production, *Machines, *Construction, Automation, Automotive industry, Transportation, Vehicles, Agricultural machinery, Road building equipment, Cements, Concrete, Roads, Specifications, Excavators.

Contents:
Inter-branch unification of machinery: the basic path for further mechanization of heavy and labor-consuming tasks, by N. G. Dombrovskii
Focus on the all-round mechanization of constructing cement-concrete roads, by A. A. Vasil'ev
Perspectives for developing machines for construction of cement-concrete road surfaces, by V. G. Klement'ev
A self-propelled, longitudinal-base concrete trimming machine for cement-concrete surfaces, by V. P. Gorbunov and M. S. Gil'man
The BO-3.5 small-dimension concrete trimmer, by E. I. Zavadskii
The E-4010 general-purpose excavator-planer.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CONSTRUCTION MACHINERY NO. 40. 19 Sep 63, 50p. JPRS: 21159.
Order from OTS $1.50 63-31797

Trans. of Mashinostroitel' (USSR) 1963, no. 6, p. 43; Mekhanizatsiya Stroitel'stva (USSR) 1963 [v. 20] no. 7, p. 18-20; Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 4, p. 74; Shakhtnoe Stroitel'stvo (USSR) 1963 [v. 7] no. 7, p. 31-34; Stroitel'nye i Dorozhnye Mashiny (USSR) 1963 [v. 8] no. 6, p. 7, 14, 35-36, and 31 selected articles from 1963 issues of 15 Russian newspapers.

DESCRIPTORS: *Industrial production, *Machines, *Construction, *Excavators, Hoists, Industrial plants, Industrial equipment, Tractors, Management engineering, Road building equipment, Roads, Maintenance equipment, Railroad cars, Supplies, Boilers, Mining engineering, Transportation, Forge presses, Earth handling equipment, Machine tools.

Contents:
Organization of a central design bureau for excavator and crane construction is a necessary and urgent problem, by A. S. Rebrov
Plant with a hazy production structure, by M. Protopopova
News items
Obstacles to the Kirov plant's tractor production program, by A. Sidorov
Shortcomings in the Karaganda heating equipment plant, by L. Savchenko and others
New machines: D-514 brush-cutter, D440 grubber, D-570 pulverizer, and the D-523 scraper
Developments in the construction machinery industry
Pledges of the Tallin machine building plant
Supply problems at "Zaporozhstal'"
Boiler leaks at the Angren GRES
An excavator giant
The Lentvaris "Kaitra" plant, by F. Filistovich
A metalworking-assembly plant in Kalyab
New excavators of the Izhora plant
The "KFN-1200" ditch digger
News briefs.

USSR INDUSTRIAL DEVELOPMENT: SOVIET CONSTRUCTION MACHINERY NO. 41. 1 Oct 63, 27p JPRS: 21266.
Order from OTS $0.75 63-31852

Trans. of Ugol' (USSR) 1963 [v. 38] no. 8, p. 10-12; Lesnaya Promyshlennost' (USSR) 1963 [v. 41] no. 8 and inside front cover (excerpt); Shakhtnoe Stroitel'stvo (USSR) 1963 [v. 7] no. 8, p. 19 (excerpt); Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 7, p. 14-15 (excerpt); 6 selected articles from Aug 63 issues of 5 Russian newspapers; 17 selected short news items from various Russian sources.

DESCRIPTORS: *Industrial production, *Machines, *Construction, Coal mines, Supplies, Industrial equipment, Boreholes, Pipes, Hoists, Road building equipment, Cutting tools, Metal forming presses, Mining engineering, Scientific personnel, Economics.

Contents:
New mechanization equipment for coal mining, by A. V. Topchiev
Delivery of milking machines
Logging equipment
Ural-61 boring machine
Movable carriage for cold bending of pipe
Defects in model K-6 crane
Breakage from Pervomaiskii plant, by E. Glushchenkov
Kiev road machinery plant
Materials and equipment for machinebuilding plants, by V. Lisitsyn and P. Siryi
Mine prop unit KSK-3
Competition for scientific personnel
Developments in heavy machinery manufacturing (short items).

USSR INDUSTRIAL DEVELOPMENT: SOVIET METALWORKING EQUIPMENT NO. 62. 25 July 63, 7p. JPRS: 20337.
Order from OTS $0.50 63-31374

Trans. of Referativnyi Zhurnal. Tekhnologiya Mashinostroeniya. B. Tekhnologiya i Oborudovanie Kuznechno-Shtampovochnogo Proizvodstva (USSR) 1963, no. 5, p. 38-9; and from Bakinskii Rabochii (USSR) 1963, 12 June, p. 1, 3; Izvestiya (USSR) 1963, 11 June, p. 3; Kommunist, Erevan (USSR) 1963, 11 June, p. 1; Trud, Moscow (USSR) 1963, 12 June.

DESCRIPTORS: *Industrial production, *Industrial equipment, *Machine tools, Machines, Construction, Diamonds, Industries, Gears, Grinders, Metal forming presses, Automatic.

Contents:
Development of high-productive machines
Achievements of machine builders, by M. Akopyan
Synthetic diamonds in industry, by V. Bakul'
Experiment on industrial method of gear rolling, by M. V. Barbarich
Method of hot milling bevel gears, by V. V. Yakimovski
ZV-182 grinding machine
New automatic metal-working machines.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METALWORKING EQUIPMENT NO. 67. 15 Aug 63, 10p. JPRS: 20666.
Order from OTS $0.50 63-31542

Trans. from Pravda, Leningrad (USSR) 1963, 1 June, p. 3; 2 June, p. 2; Pravda, Moscow (USSR) 1963, 3 June, p. 3; 5 June, p. 1-2; Sovetskaya Latviya (Latvian SSR) 1963, 8 June, p. 2; Sovetskaya Litva (Lithuanian SSR) 1963, 9 June, p. 2.

DESCRIPTORS: *Industrial production, *Industrial equipment, *Machine tools, Milling machines, Automation, Management engineering, Gears, Machining, Welding, Friction, Grinding wheels, Precision finishing, Cutting tools, Precision equipment.

Contents:
Orgstankinprom replys to industry, by A. Nezhnii
Need for extensive use of new gear machining method, by A. Alekseev
Welding: by friction, by V. Belozerov
Stankoagregat plant's quandary
Vil'nyus plant assembles experimental milling machines
Precision machining at Leningrad plant
High-precision machine tools needed.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METAL-WORKING EQUIPMENT NO. 68. 29 Aug 63, 37p.
JPRS: 20831.
Order from OTS $1.00 63-31636

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 6, p. 27-38; Mashinostroitel' (USSR) 1963, no. 7, inside front cover, p. 4, 11; Promyshlennost' Armenii (USSR 1963 [v. 6] no. 5, p. 6-9, 30-34; [Referativnyi Zhurnal] Tekhrologiya Mashinostroeniya (USSR) 1963, no. 6, item 6B769; Vystavka Dostizhenii Narodnogo Khozyaistva SSR. Informatsionnyi Byulleten' 1963, no. 7, p. 5-6; and 25 selected articles from 1963 issues of 10 Russian newspapers.

DESCRIPTORS: *Industrial production, *Industrial equipment, *Machine tools, Machines, Drilling machines, Presses (Machinery), Automation, Milling machines, Grinders, Machining, Shafts, Lathes, Costs, Precision equipment, Metal forming presses, Cutting tools, Design, Industrial plants.

Contents:
Production of boring machines in Armenia, by S. Avanyan
Various drilling machines based on model 252, by V. Manukyan
Automatic production line for screen manufacture, by Z. P. Bekreneva
Automatic rotor production line for assembling, model LGShR, by V. N. Tilipalov
Contouring milling machine, model UFZOM, by L. L. Kul'tin
Special centerless grinding semi-automatic machine, model VSh-275, by L. B. Rogatnikov
News in the "machine tools and instruments" section, by M. M. Eidel'man
A part in 65 seconds
An automatic single-mandrel lathe for longitudinal turning
Automation and cost accounting, by K. Mazanov
The latest machine tools
Automation of metalcutting machine tools, by S. Pinchuk
We cut the production costs of machine tools, by D. Grein
A new automatic form turning lathe
Key plant figure
New products, equipment and facilities in the metal-working industry.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METAL-WORKING EQUIPMENT NO. 70. 6 Sep 63, 20p.
JPRS: 20945.
Order from OTS $0.75 63-31686

Trans. of Mashinostroitel' (USSR) 1963, no. 6, p. 5, 10, 16-20, 31; and 7 selected articles from 1963 issues of 7 Russian newspapers.

DESCRIPTORS: *Industrial production, *Industrial equipment, *Machine tools, Machines, Powders, Cutting tools, Gears, Diamonds, Casting, Machining, Presses (Machinery), Electric arcs, Tractors, Abrasives, Grinders.

Contents:
Gear cutting machines produced by the Komsomolets plant, by E. B. Gagarin
The high quality of Moscow's products, by N. Voronichev and others
Milling cutters from powder
Diamonds: the best tool material
Notes on Moscow enterprises, by L. Besfamil'naya
Views on stock-piling, by A. Zherebtsov and others
On the use of new methods (excerpts)
Blueprints drawn up for K-700 tractor
The continuous flow.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METAL-WORKING EQUIPMENT NO. 71. 16 Sep 63, 16p.
JPRS: 21102.
Order from OTS $0.50 63-31773

Trans. of Kuznechno-Shtampovochnoe Proizvodstvo (USSR) 1963 [v. 5] no. 7, p. 31-34; from Ekonomicheskaya Gazeta (USSR) 1963, no. 32[105] p. 13, 48; Pravda, Moscow (USSR) 1963, 7 Aug, p. 2.

DESCRIPTORS: *Industrial production, *Industrial equipment, *Machine tools, Management engineering, Personnel, Polymers, Machines, Plastics, Gears, Presses (Machinery), Differentials, Manufacturing methods.

Contents:
No progress in equipment utilization, by S. Ivanenko
Institute announces vacancies
Polymers and machine tools, by M. Sal'man
Analysis of technological and economic indices in gear wheel stamping with teeth forming, by V. A. Krokha and others.

USSR INDUSTRIAL DEVELOPMENT: SOVIET METAL-WORKING EQUIPMENT NO. 72. 30 Sep 63, 45p
JPRS: 21249.
Order from OTS $1.25 63-31843

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 7, p. 19-25; Mashinostroitel' (USSR) 1963, no. 7, p. 6-8, 19; Montazhnye i Spetsial [izirova] nnye Raboty v Stroitel'stve (USSR) 1963 [v. 25] no. 7, p. 18-22; Vestnik Statistiki (USSR) 1963, no. 7, p. 86-96; and from Pravda, Leningrad (USSR) 1963, 13 Aug, p. 4; Pravda, Moscow (USSR) 1963, 8 Aug, p. 2-3.

DESCRIPTORS: *Industrial production, *Industrial equipment, *Machine tools, Machines, Construction, Heat treatment, Valves, Drilling machines, Sparks, Electric arcs, Cutting tools, Wasted (Industrial), Broaches, Programming (Computers), Welding.

Contents:
Certain data on random inspection of the use of manufacturing equipment in machine building
Automatic line for machining and heat treatment of rollers, by A. E. Burshe
LVV-1 model automatic rotor line by A. A. Gustov
AS-42 model drilling automatic machine, by M. Ya. Zlatopol'skii
Four applications of the electric spark
Power of incandescent arc, by V. Vishnyakov
Technology of cleanleness, by Yu. Burnashev
Horizontal pull broaching machine 7B510, by A. A. Vodop'yanov
Analog system of program control of drilling machines, by V. A. Guseva and others
New equipment for welding work, by M. V. Khanapetov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 96. 23 July 63, 28p.
JPRS: 20305.
Order from OTS $0.75 63-31361

Trans. of 17 selected articles from 1963 issues of 12 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, Corundum, Spheres, Radio transmitters, Medical equipment, Subminiature electronic equipment, Storage batteries, *Radio receivers, *Transistors, Industrial plants, Lightning, Counting methods, Welding, Industrial equipment, *Television receivers, *Gas analyzers, Liquid-level control, Control systems Balances, Maintenance, *Magnetic amplifiers, Automatic, *Timing devices, Sound generators, Multimeters, Capacitors, Electron beams, Heat resistant metals and alloys, Electric switches, Machine tools, Generators

Contents:
Kusa precision stones plant now producing corundum balls
Miniature radio transmitter used for gastro-intestinal diagnosis
Shoropani battery plant improves output
New "Selga" transistor set developed in Riga, by V. Rassokhin
Progress of Kirovabad instrument building plant
Improved lightning-discharge counters for high-tension lines
Vil'nyus electric welding equipment plant makes great strides forward, by E. Shestov
New "Kosmos" television set has automatic tuning
Lisichansk affiliate offers new control instruments and regulators
Vesomerpribor plant in Kishinev sacrifices performance to boost production figures, by D. Ivanov
Kalinin plant produces high-quality automated control equipment
Murom plant builds automatically operated radio receiver for kolkhoz network, by I. Mukliev
Extra-sensitive meters developed by Fizelektropribor plant no. 4
Leningrad plant mass-produced "Volna" TV sets
Serpukhov plant supplies equipment for newest power lines
Electrons used to weld high-melting metals
New equipment for sale.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 107. 8 Aug 63, 35p.
JPRS: 20540.
Order from OTS $1.00 63-31477

Trans. of Nauka i Tekhnika (Latvian SSR) 1963, no. 1, p. 35, 38-39 and 9 selected articles from 1963 issues of 6 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, *Radio receivers, Transistors, *Intercommunication systems, Television receivers, Maintenance, *Electric motors, Electrical equipment, Electronic equipment, Welding, Electric furnaces, Computers, Ammeters, Quality control, Shoes, Manometers, Magnets, *Loudspeakers, *Timing devices.

Contents:
Workers' innovations at the Riga VEF plant
The Darbs plant for kinescope reconditioning established in Riga, by A. Sokolov
Achievements at the Goris electric micromotor plant, by E. Reymers
The young Ust'-Kamenogorsk electrotechnical plant supplies equipment throughout the country
Electronics must be widely introduced into industry, by R. Bobovikov
New small-dimension instruments will be produced in Lithuania in 1963
Efficient control of measuring equipment must be organized, by A. Panov
The television workshop no. 2 in Minsk operates inefficiently, by Yu Solov'ev
Poor quality shoes manufactured at the Bobruysk footwear factory, by V. Ovcharenko
The Moscow manometr plant and the Leningrad vibrator plant aim at precision, reliability, and quality, by P. Nikolaev
The radio articles plant of the local industry administration of the Leningradskii
Sovnarkhoz manufactures new "Kosmos" loudspeakers
The Leningrad electric clock plant manufactures a new device.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 110. 12 Aug 63, 14p.
JPRS: 20588; NASA N63-19955.
Order from OTS $0.50 63-31500

Trans. of Kraj Rad (Poland) 1963, no. 19, p. 8-11, 24-25.

DESCRIPTORS: *Industrial production, *Precision equipment, *Television receivers, *Radio equipment, Radio astronomy, Space communication systems, Electric motors, *Printed circuits, *Medical equipment, Ultrahigh frequency, Ultrasonic radiation.

Contents:
Mass production of television sets at modern Lvov plant, by Viktor Korneichuk
Radio electronics in the exploration of outer space
Printed rotors are now used for electric motors
Generator for ultra short waves and portable ultra sound appliances for medical treatment.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 111. 13 Aug 63, 64p.
JPRS: 20610.
Order from OTS $1.75 63-31512

Trans. of 15 selected articles from 1962-63 issues of 11 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, *Ultrasonic radiation, *Ultrasonic equipment, Welds, Non-destructive testing, *Capacitors, *Lighting equipment, *Prisms (Optics), *Lenses, Eyeglasses, Industrial plants, *Industrial training, *Personnel management, Control systems, Automation, Industrial equipment, *Air conditioning equipment, *Laboratories, Plastics, Mechanical properties, Electronic equipment, Manometers, *Potentiometers, Television receivers, Hydraulic actuators, Design, Instrumentation.

Contents:
Ten years of research on ultrasonic flaw-detectors, by B. Starov
Problems in production at the Serpukhov "Kondensator" plant, by V. Vlasov
Disagreement between the Prokop'evsk "Elektroapparat' plant and the "Vorkutugol'" combine over "LSK-10U" bulbs, by S. Nikulin
New spherical prismatic lenses in glasses for near-sighted children, by O. Kolesova
Poor exchange of technical information between plants cited, by Sh. Marmer
Personnel and production policies at the Frunze control and measuring instruments plant, by V. Dmitriev
Equipment and instruments for sale without order
Climate to order
New laboratory organized to study mechanical properties of plastics
Electronics equipment for sale
Electric operators and signal equipment for sale
"Manometer" plant must specialize in electronic instruments manufacture, by N. Proshchina and others
Complaints about poor television receiver quality, by P. Podol'skii
A new miniature hydraulic plunger
Problems involved in design and manufacture of instruments in the USSR, by G. Simonyan.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 119. 29 Aug 63, 15p.
JPRS: 20833.
Order from OTS $0.50 63-31637

Trans. of Nauka i Tekhnika (Latvian SSR) 1963, no. 6, p. 19 and from Ekonomicheskaya Gazeta (USSR) 1963, no. 30(103) p. 11.

DESCRIPTORS: *Industrial production, *Precision equipment, Automation, *Instrumentation, Standardization, *Meteorological instruments, Radiosondes.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 120. 30 Aug 63, 4p.
JPRS: 20855.
Order from OTS $0.50 63-31644

Trans. of Novye Tovary (USSR) 1963, no. 6, p. 2-3.

DESCRIPTORS: *Industrial production, *Precision equipment, *Radio receivers, Sound reproduction systems.

Contents:
Belorussia produces Naroch radio receiver, by F. Tormozov
Kaunas plant develops Minya recorder, by R. Giedraitis.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 121. 10 Sep 63, 41p
JPRS: 20989.
Order from OTS $1.25 63-31710

Trans. of Promyshlennaya Energetika (USSR) 1963 [v. 18] no. 7, p. 47-48; Promyshlennost' Armenii (USSR) 1963 [v. 6] no. 5, p. 27-30; Standartizatsiya (USSR) 1963 [v. 27] no. 6, p. 52-53; Vystavka Dostizhenii Narodnogo Khozyaistva SSR. Informatsionnyi Byulleten', 1963, no. 7, p. 8; and 6 selected articles from 1963 issues of 5 Russian newspapers.

DESCRIPTORS: *Industrial production, *Precision equipment, Fibers (Synthetic), Quality control, Instrumentation, Radio equipment, Documentation, Reproduction, *Radioactive isotopes, Computers, *Optical equipment, Optical instruments, Photographic equipment, *Colorimetric analysis, *Television equipment, Electronic equipment, Electric motors.

Contents:
Quality of chemical fibers and measuring instruments, by N. V. Demina and others
Technical problems at the Vitebsk radio parts plant, by A. Zayats
Lack of production of copying-reproducing equipment, by A. Dobrovol'skii
Introducing radioactive instruments in Moldavia, by A. Fedorko
Business machine plant in Vil'nyus, by I. Radzyavichyus
Exhibition of the opticomechanical and motion-picture industries at the National Fair, by S. G. Sogolovskii
Automatic concentration detector for copper sulfate, by L. Kuchikyan
New industrial television equipment (conclusion)
News briefs.

USSR INDUSTRIAL DEVELOPMENT: SOVIET PRECISION EQUIPMENT NO. 123. 1 Oct 63, 23p
JPRS: 21269.
Order from OTS $0.75 63-31855

Trans. of Mashinostroitel' (USSR) 1963, no. 6, p. 12; Nauka i Zhizn' (USSR) 1963 [v. 30] no. 6, p. 69; Sovetskoe Foto (USSR) 1963 [v. 23] no. 6, p. 32; Vestnik Elektropromyshlenosti (USSR) 1963 [v. 34] no. 7, p. 71-77; and from Ekonomicheskaya Gazeta (USSR) 1963, no. 29[102] p. 48; Sovetskaya Rossiya (USSR) 1963, 13 Jul, p. 2; Vechernaya Moskva (USSR) 1963, 26 Jun, p. 2, 7.

DESCRIPTORS: *Industrial production, *Precision equipment, *Communication systems, *Lenses, Lanthanum, Glass, Industrial training, Potentiometers, Meters, Automation, Machine tools, *Seismological stations, *Control panels, Measuring devices (Electrical and electronic).

Contents:
Electronics and radio communications of the future, by Yu. Rumer and P. Borodovskii
"Industar-61" objective with lanthanum lenses, by V. Tsemekhman
Industrial news and announcements
"Nefteprибor" plant builds new seismic station, by N. Petrov
Control-panel electrical measuring instruments.

Beck, L., Bertele, L., and Dusterloh, A.
SPRAY CARBURETOR. [1963] [3p] (fig omitted)
Order from OTS or SLA $1.10 63-18225

Trans. of French patent 859,473, 25 Aug 39.

DESCRIPTORS: *Carburetors, Fuel sprays, Design.

Dorofeev, V. M. and others.
MAGNETOAIRBRAKE FOR TESTING MICROTURBINES [1963] 2p (figs refs omitted).
Order from OTS or SLA $1.10 63-20199

Trans. of [Izvestiya Vysshikh Uchebnykh Zavedenii. Aviatsionnaya Tekhnika] (USSR) 1962 [v. 5] no. 4, p. 123-128.

DESCRIPTORS: *Test equipment, *Brakes, *Pneumatic brakes, Magnetic brakes, *Turbines, Design, Operation.

Freeman, Henry G.
SPANENDE WERKZEUG-MASCHINEN (METAL-CUTTING MACHINE TOOLS): GERMAN-ENGLISH DICTIONARY. 1963, 1169p
Order from HB Verlag W. Girardet, 43 Essen, Gers-Str. 3, West Germany, $42.50

DESCRIPTORS: *Machine tools, Cutting tools, Metals, *Dictionaries, Language, Industrial equipment.

Romanov, V. A.
THE FIRST AUTOMATIC MACHINE-TOOL LINE FOR MANUFACTURING GEAR WHEELS (Pervaya Avtomaticheskaya Stanochnaya Liniya dlya Obrabotki Shesteren). [1963] [20]p. (foreign text included). [DSIR] NLL M.3518.
Order from OTS or SLA $1.60 63-23383

Trans. of Vestnik Mashinostroeniya (USSR) 1958 [v. 38] no. 11, p. 16-24.

DESCRIPTORS: *Machine tools, Automation, Gears, Machining.

Sinitsin, A. F.
CONVEYOR ASSEMBLY OF K50 ELECTRIC MEASURING SETS INTRODUCED AT THE KIEV TOCHELEKTROPRIBOR PLANT. USSR Industrial Development: Soviet Precision Equipment No. 108. 9 Aug 63, 6p. JPRS: 20559.
Order from OTS $0.50 63-31482

Trans. of Avtomatika i Priborostroenie (USSR) 1963 [v. 2] no. 2(14) p. 90-92.

DESCRIPTORS: *Industrial production, *Precision equipment, *Conveyors, *Measuring devices (Electrical and electronic).

Engines and Propulsion Systems

METHOD FOR THE GENERATION OF ENERGY IN INTERNAL COMBUSTION ENGINES OPERATING UNDER CONDITIONS OF RELATIVELY HIGH COMPRESSION, WITH UTILIZATION OF FUELS OF RELATIVELY LOW COMPRESSION PRESSURE. [1963] 3p
Order from OTS or SLA $1.10 63-18222

Trans. of Dutch patent 15,419, 15 Nov 26, by General Motors Corp., U. S. A.

DESCRIPTORS: *Fuel additives, Halogens, Organic compounds, Alkanes, Lead compounds, Fuels, *Internal combustion engines, Bromides, Chlorides.

Cerruti, Carlo Ugo and Pinolini, Franco.
APPLICATION OF THE METHOD OF ELECTRICAL ANALOGY TO THE STUDY OF A STATIONARY TEMPERATURE FIELD IN AN EXHAUST VALVE OF AN INTERNAL COMBUSTION ENGINE. [1963] 17p (figs omitted) 6refs
Order from SLA $1.60 63-18239

Trans. of article from an unidentified Italian source, n. p., n. d.

DESCRIPTORS: *Exhaust valves, *Internal combustion engines, Exhaust gases, *Temperature, Circuits, Determination.

Naes, Oscar.
DEVICE FOR REGULATION OF FUEL DELIVERY TO INTERNAL COMBUSTION ENGINE. [1963] 3p
Order from OTS or SLA $1.10 63-18228

Trans. of Swiss patent 224,731, 16 Mar 43.

DESCRIPTORS: *Fuel meters, *Internal combustion engines, Design.

Manufacturing Equipment and Processes

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 87 (ECONOMICS OF INDUSTRY, TECHNOLOGY OF MACHINE BUILDINGS AND TURBINE BUILDING SERIES). 27 Aug 63, 2p. JPRS: 20825.
Order from OTS $0.50 63-31633

Trans. of selected abstracts from Referativnyi [Sbornik]. Ekonomika Promyshlennosti (USSR) 1963, no. 5; Referativnyi Zhurnal. Tekhnologiya Mashinostroeniya (USSR) 1963, no. 4; Referativnyi Zhurnal. Turbostroenie (USSR) 1963, no. 1.

DESCRIPTORS: *Abstracts, *Economics, *Industrial production, *Machine, *Turbines, *China, Milling machines, Thermodynamics, Aerodynamics.

Bobrovnikov, G. A.
IMPROVED TECHNIQUE OF ASSEMBLING WHEEL-PAIRS. [1963] [5p]
Order from OTS or SLA $1.10 63-18793

Trans. of Zheleznodorozhnyi Transport (USSR) 1963 [v. 45, no. 4] p. 48-50.

DESCRIPTORS: *Vehicle wheels, *Axle shafts, *Machine shop practice, Zinc coatings, Cooling.

Lurie.
PROBLÈMES ACTUELS DE LA TECHNIQUE DE SÉCHAGE (Problems of Current Interest with the Technics of Drying). 19p FR-2074.
Order from OTS, ETC or CNRS $0.80 62-26950

Trans. in French of Vsesyuznoe Khimicheskoe Obshchestvo. Zhurnal (USSR) 1958, v. 3, no. 6, p. 748-752.

DESCRIPTORS: *Fuels, *Drying ovens, Industrial plants.

Transport, Traction and Hoist Facilities

ABSTRACTS PERTAINING TO COMMUNIST CHINA IN SOVIET ABSTRACTS JOURNALS NO. 85 (AUTOMOBILE AND URBAN TRANSPORT, WATER TRANSPORT [AND] RAILROAD TRANSPORT SERIES. 27 Aug 63, 3p. JPRS: 20819.
Order from OTS $0.50 63-31629

Trans. of selected abstracts from Referativnyi Zhurnal. Avtomobil'nyi i Gorodskoi Transport (USSR) 1963, no. 4; Referativnyi Zhurnal. Vodnyi Transport (USSR) 1963, no. 3; Referativnyi Zhurnal. Zheleznodorozhnyi Transport (USSR) 1963, no. 2.

DESCRIPTORS: *Abstracts, *Transportation, *Railroad cars, Oscillation, *Passenger vehicles, Roadwheels, Design, Reinforced concrete, Cargo ships.

METHODS OF PROTECTION AGAINST SNOW DRIFTS ON PLATFORMS AND RIGHT-OF-WAYS (INSTRUCTIONS 42-88). [1963] 11p
Order from OTS or SLA $1.60 63-18812

Trans. of mono. Instructions of Snow Control for Railways of the USSR, pub. by Gosud. Transportnoe Izdat, Moscow, 1958, p. 138.

DESCRIPTORS: *Railroad tracks, *Snow, Drift, Wind, *Snow removal, Forestry, Control system

USSR INDUSTRIAL DEVELOPMENT: SOVIET AUTOMOTIVE INDUSTRY NO. 40. 5 Aug 63, 9p JPRS: 20493.
Order from OTS $0.50 63-31450

Trans. of V[ystavka] D[ostizhenii] N[arodnogo] K[hozyaistva] SSR. Informatsionnyi Byulleten', 1963, no. 6, p. 4-6 and Za Rulem (USSR) 1963 [v. 21] no. 5, p. 12-14.

DESCRIPTORS: *Industrial production, *Automotive industry, Cargo vehicles, Transportation, Vehicle chassis components, Trailers, Tractors.

Contents:
New BelAZ-540 and BelAZ-548 dump trucks, by Z. Sirotkin
New automotive equipment demonstrated at VDNKh, by A. L. Lyubashovskaya.

USSR INDUSTRIAL DEVELOPMENT: SOVIET AUTOMOTIVE INDUSTRY NO. 42. 23 Sep 63, 28p JPRS JPRS: 21178.
Order from OTS $1.00 63-31807

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 7, p. 64-68; 9 selected articles from Jul-Aug 63 issues of 7 Russian newspapers; 12 selected short news items from various Russian sources.

DESCRIPTORS: *Industrial production, *Automotive industry, Cargo vehicles, Trailers, Transportation, Passenger vehicles, Vehicle chassis components, Internal combustion engines, Machines, Automation, Control systems, Heaters, Maintenance, Motorcycles, Students, Industrial plants.

Contents:
ZIL-130 trucks, by A. G. Zarubin
Truck trains with a 13-ton load capacity
Conventional truck converted into dump-truck
Zaporozhets car modernized, by Yu. N. Sorochkin and others
The Zil-112S car, by A. Usakovskii
The Zavolzh'e engine plant, by K. Barykin
Improvement of machine building called for, by A. Gromov
Heaters still not installed in buses, by I. Novikov
Leaders of Tsessin motor vehicle repair plant no. 4 punished for poor repair work, by P. Vigant
Achievements of innovators in the Chuvash ASSR
Moscow Aviation Institute announces admission of new students
Short news items.

Andrievskii, S. M.
LATERAL WEAR OF RAILS ON CURVES (Bokovoi Iznos Rel'sov na Krivykh) tr. by V. Poppe. 1963, 137p 45refs NRCC Technical Trans. 1079.
Order from NRCC $7.00 NRCC C-4493

Trans. of Vsesoyuznyi Nauchno-Issledovatel'skii Institut Zheleznodorozhnogo Transporta. Trudy (USSR) 1961, no. 207, 127p.

DESCRIPTORS: Railroads, *Wear resistance, *Vehicle wheels, *Railroad tracks, Curved profiles, Load distribution, Railroad cars, Locomotives, Mechanical properties, Test methods, Tests

Geronimus, B. and Sorokina, K.
PLANNING OF MOTOR TRANSPORT WITH THE AID OF ELECTRONIC COMPUTERS. 5 Sep 63, 9p. JPRS: 20922.
Order from OTS $0.50 63-31676

Trans. of Sotsialisticheskii Trud (USSR) 1963 [v. 8] no. 5, p. 65-70.

DESCRIPTORS: *Logistics, *Computers, *Traffic, *Cargo vehicles, Transportation.

Gough, V. E. and Whitehall, S. G.
UNIVERSAL TIRE-TESTING MACHINE. [1963] 28p (figs formulae refs omitted).
Order from SLA $2.60 63-20024

Trans. of article from an unidentified source, n.d.

DESCRIPTORS: *Tires, *Test equipment, Design.

Klimesh, Ferdinand.
CONTINUOUS WELDED RAILS ON PRESTRESSED SLABS. [1963] 9p.
Order from OTS or SLA $1.10 63-18082

Trans. of Zheleznodorozhnyi Transport (USSR) 1962 [v. 44, no. 12] p. 83-88.

DESCRIPTORS: *Railroad tracks, Welds, *Foundations (Structures), Reinforced concrete, Stresses, Structures, Mathematical analysis, Economics, Railroads.

Martynov, M. M.
EXTENDING THE TRAFFIC CAPACITY OF SINGLE-TRACK LINES. [1963] [3p]
Order from OTS or SLA $1.10 63-18794

Trans. of Zheleznodorozhnyi Transport (USSR) 1962 [v. 44, no. 12] p. 70-71.

DESCRIPTORS: *Railroads, *Traffic, Economics, Railroad tracks.

Trikhunkov, M. F.
CONTAINER SERVICE STATIONS ON ACCESS LINES. [1963] [7p]
Order from OTS or SLA $1.10 63-18792

Trans. of Zheleznodorozhnyi Transport (USSR) 1963 [v. 45, no. 2] p. 83-86.

DESCRIPTORS: *Handling, Cargo, *Containers, Hoists, Railroad cars, *Railroads, Traffic.

MATERIALS

PROCESS FOR PRODUCTION OF KETONE CONDENSATION PRODUCTS. [1963] [5p] 1ref
Order from OTS or SLA $1.10 63-18517

Trans. of French patent 802,840 [1936].

DESCRIPTORS: *Ketones, *Detergents, *Surface-active substances, *Soaps, Aldehydes, Alcohols, Condensation reactions.

PROCESS FOR THE MANUFACTURE OF SULFONATED PRODUCTS. [1963] [3p]
Order from OTS or SLA $1.10 63-18191

Trans. of French patent 773,656, of Henkel & Co. [1934].

DESCRIPTORS: *Surface-active substances, *Sulfonates, Manufacturing methods, Aliphatic compounds, Fatty acids, Alcohols, *Sulfonation, Sulfuric acid.

Davydov, S. S.
LE BETON ARMÉ AUX PLASTIQUES ET SON AVENIR (Armoplast Concrete and its Future). 7p 1 ref FR-1340.
Order from OTS, ETC or CNRS $0.80 62-26901

Trans. in French of Beton i Zhelezobeton (USSR) 1961 [no. 4] p. 162-164.

DESCRIPTORS: *Reinforced concrete, Prefabricated buildings, Mechanical properties, *Plastics.

Farber, S. G.
QUELQUES PROBLÈMES AYANT TRAIT À LA THÉORIE DE LA DÉFORMATION DU BETON EN FONCTION DE LA TEMPÉRATURE (Theory and Problems of the Deformation of Concrete as a Function of the Temperature). 20p.
Order from OTS, ETC or CNRS $0.80 62-26980

Trans. in French of unidentified Russian language article, n.d.

DESCRIPTORS: *Concrete, *Deformation, Temperature, Reinforced concrete, Experimental data, Theory.

Glukhman, L. A., Lisovskii, A. F., and Chlyakhovskii, I. D.
PRÉPARATION DE COKE SANS CENDRES ET DE BITUME POUL L'INDUSTRIE DES LAQUES ET COLORANTS À PARTIR DE L'EXTRAIT FURFUROLE DE PURIFICATION DE L'HUILE DE GRAISSAGE POUR AUTOMOBILES (Preparation of Coke without Ash and Bitume for the Industry of Lacquers and Dyes from Lubricating Oil Purified by Furfurole Extract). 4p FR-2081.
Order from OTS, ETC or CNRS $0.80 62-26951

Trans. in French of Izvestiya Vysshikh Uchebnykh Zavedenii, Neft' i Gaz (USSR) 1961, v. 4, no. 7, p. 79-80.

DESCRIPTORS: Paints, *Varnishes, *Coke, Lubrication, Oils, Purification, Solvent extraction, Furfuryl alcohols, *Bituminous coatings.

Gusakov, V. N.
RÉSISTANCE DE DÉFORMATION DU BETON DE SILICATE SOUMIS À LA COMPRESSION (Deformation Resistance of Silicate Concrete under Pressure). 11p
Order from OTS, ETC or CNRS $0.80 62-26982

Trans. in French of Beton i Zhelezobeton (USSR) 1959, no. 1, p. 25-29.
Another trans. is available in English from LC or SLA mi$2.40, ph$3.30 as 61-19381, CSIRO Trans-5014 [1961] [17p].

DESCRIPTORS: *Concrete, Sand, Calcium compounds, Oxides, Mechanical properties, Deformation, Silicates.

Lessig, N. N.
STUDY OF GASES OF FAILURE OF CONCRETE IN REINFORCED CONCRETE ELEMENTS WITH RECTANGULAR CROSS-SECTION SUBJECTED TO COMBINED FLEXURE AND TORSION. [1963] [40]p. 1 ref.
Order from OTS or SLA $3.60 63-18053

Trans. of mono. Design of Reinforced Concrete Structures, Moscow, 1961, p. 229-271.

DESCRIPTORS: *Reinforced concrete, *Failure (Mechanics), Mathematical analysis, Structures, Stresses, Beams (Structural), Tests, Mechanical properties, Loading (Mechanics).

As a result of the tests described in this paper, the author amplified his earlier proposals for ultimate strength design of reinforced concrete elements of rectangular cross-section working in combined flexure and torsion. In particular recommendations were formulated for minimum dimensions of the cross-section of the element, at which the probability of a compression failure of the concrete prior to yielding of the steel is eliminated, and for the design of elements for shear with account taken of the effect of torsional moment. (Author)

Mauersberger, E. A.
IMPROVEMENTS OF SULFONATED PRODUCTS AND THEIR METHOD OF MANUFACTURE. [1963] 2p
Order from OTS or SLA $1.10 63-18198

Trans. of French patent 801,106, 28 Jul 36.

DESCRIPTORS: *Surface-active substances, *Sulfonation, Production, Chemical reactions.

Nekrasov, K. D. and Maslennikova, M. G.
HEAT RESISTANT PERLITE CONCRETE. [1963] 11p. 2 refs.
Order from OTS or SLA $1.60 63-14712

Trans. of Beton i Zhelezobeton (USSR) 1962, v. 8, no. 8, p. 339-342.

DESCRIPTORS: *Concrete, *Heat resistant materials, Sand, Igneous rock, Silicon compounds, Oxides, Aluminum compounds, Mechanical properties, Cements.

Heat resistant perlite concrete with weight per unit volume of 650-800 kg/cu. m. and compressive strength in dried condition of 30-50 kg/sq. cm. (cement content 230-300 kg per 1 cu. m. concrete) can be obtained with a base of perlite sand weighing 100-200 kg/cu. m. and perlite coarse aggregate weighing 300 kg/cu. m. Heat resistant perlite concrete mixes containing perlites of Transcarpathian and Transcaucasian origin showed a considerable drop in compressive strength and the appearance of a network of cracks after being heated once at 600 and 800°C; these phenomena were particularly apparent after a further 10-day storage in air. Due to this, heat resistant perlite concrete should be limited to service temperatures below 500°C. Heat resistant perlite concrete has considerable shrinkage during initial (first) heating to 900°C; concrete with perlite sand (no coarse aggregate) has a fire shrinkage 1.5-2 times higher than that of concrete containing coarse aggregate as well. Finely ground perlite can be used as a microfiller, imparting heat resistant properties to cement paste in heat resistant perlite concrete; the fineness of perlite in such cases should correspond to not less than 70% passing the No. 009 sieve (4900 openings/sq. cm.). (Author)

Shtykhnov, G. S.
CALCULATION OF THE TOTAL SURFACE AREA OF PARTICLES OF A FINE FRACTION. Aug/Sep 63, 1200words
Order from HB $2.90 HB-6026

Trans. of #Zavodskaya Laboratoriya (USSR) 1963, v. 29, no. 5, p. 584-586.

DESCRIPTORS: Surface area, *Particles, *Particle size, Materials, Mathematical analysis.

Sosinski, J.
UTILISATION DES ISOTOPES RADIOACTIFS DANS L'INDUSTRIE DU CIMENT (The Use of Radioactive Isotopes in the Cement Industry) 7p 2 refs FX-478.
Order from OTS, ETC or CNRS $0.80 62-26891

Trans. in French of Cement, Wapno, Gips (Poland) 1960, v. 15/25, no. 1, p. 27-28.

DESCRIPTORS: *Cements, Production, *Radioactive isotopes, Cobalt, Lanthanum, Measurement, *Nuclear industrial applications.

Ushakova, K. N., Popova, A. V. and others.
THE PRODUCTION OF ACETATE RAYON FROM AN AQUEOUS ACETONE SOLUTION OF CELLULOSE ACETATE. [1963] 2p.
Order from ATS $4.00 ATS-36Q71R

Trans. of Khim[icheskie] Volokna (USSR) 1963, no. 1, p. 71-72.

DESCRIPTORS: *Acetates, *Acetones, *Rayon, Solutions, *Cellulose.

Waldmann, E. and Chwala, A.
PRODUCTS CONTAINING SULFONIC GROUPS AND PROCESS FOR PREPARING THE SAME. [1963] 4p
Order from OTS or SLA $1.10 63-18196

Trans. of French patent 796,917 [1936].

DESCRIPTORS: *Sulfonic acids, Azoles, Amines, Condensation reactions, *Surface-active substances, *Cleaning compounds, Production.

Ceramics and Refractories

OPTICAL BORON GLASS WITH HIGH REFRACTIVE INDEX. Aug 63.
Order from TTIS $5.85 TTIS NS 117

Trans. of Polish patent 46,689, by VEB Jenaer Glaswerk Schott & Gen., appl. 6 Nov 61, pub. 2 Mar 63 (clg. 6 May 61: East Germany).

DESCRIPTORS: *Optical glass, *Boron compounds, Refractive index.

VACUUM-FLASK METHOD FOR DETERMINATION OF THE HEAT OF HYDRATION OF CEMENT. tr. by H. A. Berman. [1963] [10]p.
Order from OTS or SLA $1.10 63-19285

Trans. of Russian Standard GOST 4798-57: concrete (sect. on heat of hydration).

DESCRIPTORS: *Cements, Determination, *Concrete, Standards, Test methods, *Vacuum apparatus, Heat of formation.

Barta, R.
FORMES NOUVELLES DE LA SILICE (Nove 'modifikace kysličniku křemičitého) New Modification of Silicon Dioxide). 10p
Order from OTS, ETC or CNRS $0.80 62-26941

Trans. in French of Sklar a Keramik (Czechoslovakia) 1956, v. 6, no. 2, p. 41-42.

DESCRIPTORS: *Silicon compounds, *Dioxides, Water, *Phase studies, Density, Theory.

Borisov, K. I. and Svetlov, A. A.
MÉTHODE PERFECTIONNÉE DU REFROIDISSEMENT DES FOURS À BASSIN PAR L'AIR (Improved Method of Refrigerating Furnace Basins by Air) 8p
Order from OTS, ETC or CNRS $0.80 62-26992

Trans. in French of #Steklo i Keramika (USSR) 1957 [v. 14] no. 2, p. 22-25.

DESCRIPTORS: *Glass, Industrial plants, *Ovens, Cooling, Ventilation, Air, *Furnaces, *Refrigeration systems.

Dauval'ter, A. N.
METHODS OF CALCULATING THE TEMPER OF GLASS. [1963] [31p] 3refs
Order from SLA $3.60 63-14506

Trans. of Russian mono. Metody Rascheta Otzhiga Stekla, n.p. [1938?].

DESCRIPTORS: *Glass, Mathematical analysis, Elasticity, Annealing

Dubova, O. A., Begelfer, K. I., Sazonova, P. A., and Funtikova, K. M.
ESTIMATION COMPLEXOMÉTRIQUE DE L'ALUMINIUM DANS LES MATÉRIAUX À HAUTE TENEUR D'ALUMINE (Complexometric Determination of Aluminium in Materials with High Aluminium Degree). 5p FR-2077.
Order from OTS, ETC or CNRS $0.80 62-26949

Trans. in French of Steklo i Keramika (USSR) 1960 [v. 17, no. 9] p. 43-44.

DESCRIPTORS: *Aluminum compounds, *Oxides, Complex compounds, Chemical analysis, *Titration, Sodium compounds, Salicylic acids, Sulfones.

Espe, Werner.
THE PERMEABILITY OF GASES THROUGH INDUSTRIAL GLASSES (O Priepustnosti Plynov Tecgnickych Skiel). [1963] [14p] (foreign text included) 11refs
Order from SLA $1.60 63-18616

Trans. of [Elektrotechnicky Casopis] (Czechoslovakia) 1958, v. 9, no. 4, p. 240-246.
Another trans. is available from SLA $1.60 as 61-16158 [1961] [11]p.

DESCRIPTORS: Gases, Permeability, *Heat resistant glass, Gas diffusion, Ceramic materials.

Data obtained from Western technical literature are presented.

Hara, Masayoshi, Yamamoto, Tokuji, Konishi, Akio, and Arimori, Tuyoshi.
THE ELECTROCHEMICAL STUDY OF THE CORROSION OF THE REFRACTORY BY MOLTEN GLASS. 1. ON THE ELECTROMOTIVE FORCES GENERATED BETWEEN REFRACTORY OXIDES AND GLASSES. [1963] [25p] (foreign text included) 22refs
Order from SLA $2.60 63-18618

Trans. of Yogyo Kyokaishi (Japan) 1959, v. 67, no. 1, p. 20-27.

DESCRIPTORS: *Glass, Melting, Oxides, Electrochemistry, Refractory materials, Corrosion, Electrodes, Clay minerals.

Ihara, M. and Arimori, T.
EFFECT OF MINOR INGREDIENTS OF GLASS BATCH ON MELTING PROCESS OBSERVED UNDER HIGH TEMPERATURE MICROSCOPE. [1963] 15p 14refs
Order from SLA $1.60 63-18933

Trans. from [Yogyo Kyokaishi] (Japan) 1963, v. 71, no. 13.

DESCRIPTORS: *Glass, *Melting, *High-temperature research, *Microscopes, Electric furnaces, Materials, *Phase studies, Microscopy.

A simple high temperature microscope was constructed, which, although of low magnification, was used to observe the melting process of about one gram samples up to 1450°C. It was found that addition of selected minor ingredients was effective for enhanced bubble formation, the fluidity of the melt, and the rate of melting of quartz sand. With CaF_2, Li_2CO_3, and H_3BO_3 a pronounced enhancement is found up to 1400°C. Smaller effects are observed with TiO_2 and H_2O. (Author)

Kröger, Carl.
BATCH REACTIONS AND GLASS MELTS, PT. 2 (Gemengeraktionen und Glasschmelze). [Lecture at Glass Technical Meeting (no. 26) Goslar, 21 May 52]. [1963] [23p] (foreign text included) 8refs
Order from SLA $2.60 63-18596

Partial trans. (p. 316-324) of Glastechnische Berichte (West Germany) 1952, v. 25, no. 10 [p. 307-324]. Another trans. is available from SLA mi$2.70, ph$4.80 as 60-18771 [1960] 23p. and mi$3.00, ph$6.30 in 60-18770 [1960] [36p].

DESCRIPTORS: *Glass, Phase studies, Melting.

Contents:
Velocity of reactions and condition of melt
Behavior of the reaction velocity expressed by formulae
The solid substance reaction
The reaction with melt participation.

Lungu, N. Stelian and Popescu, Has Dumitru.
THEORETICAL FOUNDATIONS OF THE PRODUCTION OF PORCELAIN FROM GLASS (Az Uvegbol Nyert Porcelan Keszitesenek Elmeleti Alapjai). [1963] [15p] (foreign text included) 5refs
Order from SLA $1.60 63-18594

Trans. of Epitőanyag (Hungary) 1958 [v. 10] no. 3, p. 86-89.

DESCRIPTORS: *Ceramic coatings, *Glass, *Silicates, *Crystallization, Crystal structure, Physical properties.

Neldel, Hans.
A METHOD FOR PRODUCING METAL COATINGS ON GLASS OR CERAMIC SURFACES (Verfahren zum Herstellen von Metallbelägen auf Glas- oder Keramikflächen). [1963] [5p] (foreign text included)
Order from OTS or SLA $1.10 63-18582

Trans. of German patent 1,007,479, cl. 32b [gr.] 10, internat. cl. C 03 c; C 04 b, appl. 26 Jan 55, issued 2 May 57, by Suddeutsche Telefon-Apparate-Kabel-, and Drahtwerke AG.

DESCRIPTORS: *Metal coatings, *Glass, *Ceramic materials, Surfaces, Manufacturing methods.

The object of the invention is a method for producing metallic coatings on glass or ceramic surfaces by means of a firing process, characterized by the fact the metals to be used are applied as their carbonyls and are thermally decomposed on the surfaces being coated at a temperature which lies considerably below the reduction temperature. (Author)

Obukhov, A. P., Mikhailova, M. N., and Koposova, V. I.
PROPERTIES OF MAGNESIUM OXIDE OBTAINED BY HYDROLYSIS OF MAGNESIUM CHLORIDE. [1963] [23p] 5refs
Order from OTS or SLA $2.60 63-18536

Trans. of [Gosudarstvennyi Institut Prikladnoi Khimii. Trudy] (USSR) 1934, v. 25, p. 69-78.

DESCRIPTORS: *Magnesium compounds, *Oxides, Chlorides, Hydrolysis, *Cements, Chemical properties, Physical properties, Chemical reactions.

Schreck, Carl Walter.
CONTRIBUTION TO THE DETERMINATION OF THE HEAT FLUX IN THE WALLS OF GLASS MOLDS (Beitrag zur Ermittlung des Wärmeflusses in den Wänden von Glasformen). [1963] [38p] (foreign text included) 10refs
Order from SLA $3.60 63-18590

Trans. of Glastechnische Berichte (West Germany) 1955, v. 28, no. 9, p. 359-368.

DESCRIPTORS: *Glass, Molding, Heat transfer, Walls, Cooling, Temperature, Distribution, Determination, Thermal conductivity.

The heat flux and with it the temperature distribution in the mold can be discussed approximately as a stationary problem under the condition of constant heat flow density at the internal margin. The problem is solved for a simple plane case; tor the solution of more general cases in molds of arbitrary shape and cooling arrangement an experimental procedure is developed. The accuracy and possibilities of application of the procedure are discussed and the error produced by the stationary treatment of the problem is estimated. (Author)

Schulz, E. O.
PROCESS FOR THE PRODUCTION OF FOAMED GLASS WITH CLOSED CELLS. Aug 63.
Order from $7.20 TTIS NS 126

Trans. of East German patent 24,958, appl. 8 June 59, pub. 1 Apr 63.

DESCRIPTORS: *Glass, *Porous materials, Production, Mechanical properties, Crystal structure.

Winogradow, L. and Omelanczuk, J.
MATÉRIAUX STÉATIQUES À RÉSISTANCE MÉCANIQUE AUGMENTÉE APRÈS LA CUISSON. Partie Experimentale (Ceramic Ware from Steatite with Increased Mechanical Resistance after Burning). 19p
Order from OTS, ETC or CNRS $0.80 62-26892

Trans. in French of Szklo i Ceramika (Poland) 1958, v. 9, no. 4, p. 101-106.

DESCRIPTORS: *Talc, *Carbonates, Barium compounds, Magnesium compounds, Plasticizers, Zinc compounds, Zirconium compounds, Lead compounds, *Oxides, Bentonite, *Ceramic materials, Mechanical properties, Electrical properties.

Fuels, Lubricants, and Hydraulic Fluids

INSTRUCTIONS FOR MANUFACTURING A FUEL FOR COMBUSTION ENGINES. [1963] 2p
Order from OTS or SLA $1.10 63-18658

Trans. of Dutch patent 1,588, cl. 23 b. gr. 4, issued 2 Oct 16, dated 25 Aug 16, appl. no. 5,194 of 28 Aug 14, pub. 1 May 15, by Thaon Khim Haon Nio.

DESCRIPTORS: *Fuels, Internal combustion engines, *Fuel additives, Esters, Nitric acid, Alcohols, Gasoline, Benzenes.

METHOD FOR THE PRODUCTION OF ANTI-KNOCK ENGINE FUELS. [1963] 4p
Order from OTS or SLA $1.10 63-18668

Trans. of Dutch patent 30,503, cl. 23 b. 4a, issued 15 Aug 33, dated 16 Jul 33, appl. no. 52,973, 8 Aug 30, pub. 15 Mar 33, by N. V. de Bataafsche Petroleum Maatschappij.

DESCRIPTORS: *Fuels, Internal combustion engines, *Antiknock, Metallic compounds, Organic compounds, *Fuel additives.

TESTING OF LUBRICANTS: DETERMINATION OF THE SAPONIFICATION NUMBER. [1963] 3p
Order from ATS $4.00 ATS-78Q71G

Trans. of [German standards specification] DIN 51,559.

DESCRIPTORS: *Lubricants, Hydrolysis, Chemical analysis.

Beck, George and Kunzelmann, Rudolph.
CORROSION BY FUELS. SECT. 3. BEHAVIOR OF HEAVY AND LIGHT METALS IN CONTACT WITH FUELS. [1963] 17p (figs omitted) 3 refs
Order from SLA $1.60 63-18205

Partial trans. (p. 25-35) of [Deutsche Kraftfahrtforschung (Germany) 1939, no. 21, p. 1-35].

DESCRIPTORS: *Fuels, Metals, *Corrosion, Surfaces, Refineries, Alloys, Atmosphere, Exposure, Sulfur, Alcohols, Water.

Botnikov, Ya. A., Nersesov, L. D., and Fishman, K. Kh.
DESULFURIZATION OF GASOLINES WITH BAUXITE CATALYSTS. [1961] 2p
Order from OTS or SLA $1.10 62-14105

Abstract trans. of Vostochnaya Neft' (USSR) 1940, v. 2, no. 9, p. 34-36.
Also abstract available from OTS or SLA $1.60 in 61-20355 [1961] 11p.

DESCRIPTORS: *Gasoline, *Desulfurization, *Bauxite, Catalysts, Fuels, Tests, Abstracts.

Buyalov, N. I. and Kolbel, H. A.
THE POTENTIAL OIL AND GAS RESOURCES OF THE GERMAN DEMOCRATIC REPUBLIC. 20p 7 refs MTWL-1142.
Order from OTS or ETC $0.80 63-26598

Trans. of Geologiya Nefti i Gaza (USSR) 1957, v. 1, no. 1, p. 64-73.

DESCRIPTORS: *Petroleum, Gases, Economics, Natural resources

Chernikin, V.
PUMPING OF VISCOUS MAZUTS AT LOW TEMPERATURES. [1961] 2p 1ref
Order from OTS or SLA $1.10 62-10893

Abstract trans. of Moskovskii Neftyanyi Institut. Trudy (USSR) 1940, v. 2, p. 217-225.
Also available from OTS or SLA $2.60 in 61-20402 [1961] 24p.

DESCRIPTORS: *Petroleum, *Oils, *Viscosity, Pipes, Hydraulic pressure pumps, Fluid flow, Temperature, Abstracts.

Ciborowski, St.
NEW ANTIKNOCK COMPOUNDS. [1963] 8p 6refs
Order from SLA $1.10 63-18662

Trans. of Przemysl Chem[iczny] (Poland) 1950, v. 6[29] p. 277-280.

DESCRIPTORS: *Antiknock, *Gasoline, Heptanes, Octanes, Mixtures, Hydrocarbons, Xylidines, Ethyl radicals, Lead compounds, Ethanols, Benzenes, *Fuels.

Davydov, P. I. [Bol'shakov, G. F., and Glebovskaya, E. A.]
THE INFLUENCE OF NITROGEN BASES ON THE STABILITY OF FUELS AT ELEVATED TEMPERATURE. 14p 7 refs MTWL-1130.
Order from OTS or ETC $0.80 63-26583

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1962, v. 7, no. 10, p. 20-26.
Another trans. is available from ATS $9.65 as ATS-37Q68R [1963] 8p.

DESCRIPTORS: *Fuels, High temperature research, *Nitrogen compounds, Stability.

Efros, D. A.
A DETERMINATION OF THE HIGHEST YIELD OF ANHYDROUS AND GASFREE OIL FROM IMPERFECT WELLS WITH THE AID OF THE VISCOSITY ANALOGY METHOD. 10p 9ref MTWL-1140
Order from OTS or ETC $0.80 63-26596

Trans. of Akademiya Nauk SSSR. Doklady, [1956] v. 110, no. 4, p. 527-530.

DESCRIPTORS: *Petrolem, *Oils, Gases, Production, Viscosity, Analog systems, Determination.

Grimm, W.
COMBUSTION DYNAMICS OF FUEL OIL FLAMES IN RELATION TO DEVELOPMENT TRENDS IN BURNER DESIGN. [1963] 15p
Order from ATS $17.85 ATS-66Q71G

Trans. of [Erdöl und Kohle-Erdgas-Petrochemie] (West Germany) 1963, v. 16, no. 5, p. 371-378.

DESCRIPTORS: *Fuel oil, Flames, *Combustion, Gas burners, Design, Flame propagation.

Gritsev, N. D. and Barmina, Z. V.
PHYSICO-CHEMICAL AND COMMERCIAL CHARACTERISTICS OF THE OIL FROM COAL KRASNOKAMSK REGION. [1961] 2p
Order from OTS or SLA $1.10 62-14102

Abstract trans. of Vostochnaya Neft' (USSR) 1940, v. 2, no. 7/8, p. 35-39.
Also available from OTS or SLA $1.60 in 61-20356 [1961] 13p.

DESCRIPTORS: *Oils, *Petroleum, Gasoline, Kerosene, Physical properties, Chemical properties, Abstracts.

Katsnel'son B. D. and Marone, I. Ya.
IGNITION AND COMBUSTION OF COAL DUST (O Vosplamenenii i Gorenii Ugol'noi Pyli) tr. by L. Meyer. [1963] [8]p. 5 refs. S. M. R. E. Trans. no. 4659; [DSIR] NLL M. 3683.
Order from OTS or SLA $1.10 63-19847

Trans. of Teploenergetika (USSR) 1961 [v. 8] no. 1, p. 30-34.

DESCRIPTORS: *Coal, Combustion, Ignition.

Klushin, M. I.
LUBRICANT-COOLANT FLUIDS IN CUTTING METALS AND THE TECHNIQUE OF THEIR APPLICATION, CHAPS. 4-5, 7-8: SELECTED PARTS. 9 May 63 [225]p. 10 refs. FTD-TT-63-105.
Order from OTS $3.50 63-11704

Unedited rough draft trans. of mono. Smazochno-Okhlazhdayushchie Zhidkosti pri Rezanii Metallov i Tekhnika Primeneniya, Moscow, 1961, p. 53-97, 112-141, 168-269, 280-290.

DESCRIPTORS: *Lubricants, *Cutting fluids, *Coolants, *Screw threads, *Cutting tools, *Heat-resistant metals and alloys, *Titanium, *Magnetic alloys, Tracer studies, *Grinders, *Machining, *Liquid jets, *Sprays, Atomization.

Contents:
The effect of various lubricants and coolants on the quality of tap-cut threads
The utilization of lubricant-coolant fluids in grinding operations
Cooling and lubricating the cutting zones by high pressure fluid stream
Lubrication and cooling with dispersed liquids during the reaction of metals.

Kusakov, M. M., Lubman, N. M., and Kochevnik, A. [Yu.].
TENSION SUPERFICIELLE (INTERFACIALE) DES PRODUITS PÉTROLIERS BRUTS EN CONTACT IN SITU AVEC LES PHASES GAZEUSE ET AQUEUSE (The Surface Tension of Crude Oil in Contact with Gas and Water). 18p 12 refs
Order from OTS, ETC or CNRS $0.80 62-26896

Trans. in French of Neftyanoe Khozyaistvo (USSR) 1954, v. 32, no. 10, p. 62-69.
Another trans. is available from Technical and Commerical Translations, 2135 Spruce St., Philadelphia, 3, Pa.

DESCRIPTORS: *Petroleum, *Surface tension, Water, Gases, Molecules, Pressure, Temperature.

Mamedov, Kh. I.
SPECTRES DE LUMINESCENCE DES HYDROCARBURES DE PÉTROLE À POIDS MOLÉCULAIRE ÉLEVÉ (Luminescence Spectra of High-Molecular Weight Petroleum Hydrocarbons). 10p 7 refs FR-606.
Order from OTS, ETC or CNRS $0.80 62-26880

Trans. in French of #Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya, 1959, v. 23, no. 1, p. 126-130. Another trans. is available in English from LC or SLA mi$1.80, ph$1.80 as 60-16910 [1960] 5p.

DESCRIPTORS: *Petroleum, *Hydrocarbons, *Luminescence, Complex compounds, Molecules, Crystals, Benzenes, Determination.

Mikhul, K., Ruschor, K. and others.
SPECTRES DE FLUORESCENCE DES CARBURANTS DE MOTEURS (Spektry Fluorestsentsii Motorinov) (Fluorescence Spectra of Motor Fuel). 12p (foreign text included) 7 refs
Order from OTS, ETC or CNRS $0.80 62-26981

Trans. in French of #Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya 1959, v. 23, no. 1, p. 122-125. Another trans. is available in English from LC or SLA mi$1.80, ph$1.80 as 60-18077 [1960] 5p.

DESCRIPTORS: Internal combustion engines, *Fuels, *Fluorescence, Spectrographic analysis, Absorption.

Mitacek, Bill and Graham, John Philip.
IMPROVED THICKENED LUBRICANTS. [1963] 17p
Order from ATS $27.50 ATS-96Q71F

Trans. of French patent 1,299,731 [internat'l cl. C 10 m, file no. 865,387] filed 19 Jun 61, granted 18 Jun 62, by Phillips Petroleum Co., U.S.A. (pat. appl. no. 37,332, filed in U.S.A. 20 Jun 60) [pub. in Bulletin Officiel de la Propriete Industrielle (France) 1962, no. 30].
Another trans. is available from OTS or SLA $2.60 as 63-20054 [1963] 28p.

DESCRIPTORS: *Lubricants, *Greases, Oils, Mineral oils, Ethylenes, Polymers, Lithium stearates, Metallic soaps, Density, Production, Tests.

Mitacek, Bill and Graham, John Philip.
IMPROVED THICKENED LUBRICANTS. [1963] 28p refs
Order from OTS or SLA $2.60 63-20054

Trans. of French patent 1,299,731, internat'l cl. C 10 m, file no. 865,387, appl. 19 Jun 61, granted 18 Jun 62, by Phillips Petroleum Co., U. S. A. (pat. appl. 37,332, filed 20 Jun 60, U. S. A.) (pub. in Bulletin Officiel de la Propriété Industrielle (France) 1962, no. 30).

DESCRIPTORS: *Lubricants, *Greases, Oils, Mineral oils, Ethylenes, Polymers, Lithium stearates, Metallic soaps, Density, Production, Tests.

The invention concerns a thickened lubricant consisting essentially of a lubricating oil and an ethylene polymer having a density of at least 0.940 g/cm^3 at 25°C.

Pedinelli, Mario.
DETECTION AND DETERMINATION OF MANGANESE IN MOTOR FUELS CONTAINING ADDITIVES. [1963] 12p
Order from K-H $12.00 K-H 10995

Trans. of la Chimica e l'Industria (Italy) 1959 [v. 41] no. 12, p. 1180-1184.

DESCRIPTORS: *Fuels, *Manganese, Fuel additives, Quantitative analysis.

Petrov, A. D.
ANTIKNOCK PROPERTIES AND POUR POINTS OF INDIVIDUAL HYDROCARBONS OF THE DIESEL FUEL RANGE. I. [1962] 6p 4refs
Order from OTS or SLA $1.10 62-14126

Trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1941, no. 1, p. 145-155.
Also available from OTS or SLA $2.60 in 61-20795 [1961] 25p.

DESCRIPTORS: *Fuel oil, *Antiknock, *Hydrocarbons, Methanes, Ethylenes, Naphthenes, Benzenes, Toluenes, Cyclohexanes, Heptanes, Decenes.

Rapoport, I. B.
RECENT ACHIEVEMENTS AND THE OUTLOOK FOR APPLICATION OF HIGH PRESSURES IN THE MOTOR FUEL INDUSTRY. [1961] 2p 6refs
Order from OTS or SLA $1.10 62-14121

Abstract trans. of Akademiya Nauk SSSR. Otdelenie Khimicheskikh Nauk. Izvestiya, 1940, no. 6, p. 979-982.
Also available from OTS or SLA $1.60 in 61-20796 [1961] 11p.

DESCRIPTORS: *Fuels, *High pressure research, Hydrogenation, Coal, Hydrocarbons, Decomposition, Petroleum, Chemical engineering, Abstracts.

Semenido, E. G.
HIGH QUALITY WINTER OILS. [1962] 5p 7refs
Order from OTS or SLA $1.10 62-14113

Abstract trans. of Neftyanoe [Khozyaistvo] (USSR) 1940, v. 21, no. 6(11) p. 60-66.
Also available from OTS or SLA $1.60 in 61-20784 [1961] 13p.

DESCRIPTORS: *Airplane engine oils, *Low-temperature lubricants, Viscosity, Wear resistance, Lubricant additives.

Shapatina, E. A. and Orlova, M. A.
EXPERIMENTAL APPARATUS FOR THE DECOMPOSITION OF SOLID FUEL DURING RAPID HEATING. [Aug 63] 2p.
Order from SIC $8.00

Abridge trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 152-160.

DESCRIPTORS: *Coal, *Fuels, Pyrolysis, Heating, Laboratory equipment, Solids, Carbonization.

Details are given of a laboratory apparatus constructed to investigate the effect of rapid heating on the thermal decomposition of hard coal. A diagram of the apparatus is included. (SIC abstract)

Shekhoyan, L. S.
FACTORS INFLUENCING THE CONSISTENCY OF GREASES. [1961] 4p
Order from OTS or SLA $1.10 62-14104

Abstract trans. of Vostochnaya Neft' (USSR) 1940, v. 2, no. 7/8, p. 42-46.
Also available from OTS or SLA $1.60 in 61-20356 [1961] 13p.

DESCRIPTORS: *Greases, *Lubricants, Fats, Sodium, Calcium, Soaps, Mineral oils, Sulfuric acid, Physical properties, Chemical properties, Abstracts.

Shor, G. I. and others.
ELECTROCHEMICAL ASPECTS OF THE MECHANISM OF WETTING ADDITIVES IN MOTOR OILS, tr. by L. Mote, 20p 31refs MTWL-1136.
Order from OTS or ETC $0.80 63-26590

Trans. of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1962, v. 7, no. 8, p. 58-66.

DESCRIPTORS: *Electrochemistry, Oils, *Internal combustion engines, Additives, *Surface-active substances, Metals, Surfaces, Films, Experimental data.

Shoucair, M. L.
THE RALATIVE BARGAINING OF ARAB STATES AND PETROLEUM COMPANIES. 29p. 23 refs. MTWL-1139
Order from OTS or ETC $1.10 63-26595

Trans. of article delivered at the Arab Petroleum Congress (no. 3) held in Alexandria (Egypt) from 16th to 22nd October 1961.

DESCRIPTORS: Oils, Petroleum, Production, Economics, *Petroleum industry.

Vinogradov, G. V. and others.
ASPECTS OF THE COMBINED ACTION OF AIR (MOLECULAR OXYGEN) AND OF ORGANIC SULPHUR, PHOSPHORUS AND CHLORINE COMPOUNDS AS ADDITIVES TO PETROLEUM OILS OF DIFFERENT VISCOSITIES, tr. by L. Mote. 26p 24 refs. MTWL-1133.
Order from OTS or ETC $1.00 63-26586

Trans. of Neftekhimiya (USSR) 1961, v. 1, no. 3, p. 433-443.
Another trans. is available from OTS or SLA $2.60 as 62-32800, TRC Trans-1069 [1962] [24p].

DESCRIPTORS: *Oils, Additives, Petroleum, Viscosity, Air, *Oxygen, Organic compounds, *Sulphur compounds, *Phosphorus compounds, *Chlorine compounds.

Vipper, A. B. and Leont'ev, B. I.
THE INVESTIGATION OF USED OILS CONTAINING DETERGENT ADDITIVES BY MEANS OF THE ELECTRON MICROSCOPE, tr. by R. E. Daisley. 10p 7refs MTWL-1131.
Order from OTS or ETC $0.80 63-26584

Trans. of Khimiya i Tekhnologiya Topliv i Masel, 1962, v. 7, no. 4, p. 53-56.

DESCRIPTORS: *Oils, Cleaning compounds, Additives, *Electron microscopy, Photographs.

Leather and Textiles

A PROCESS FOR THE MANUFACTURE OF SYNTHETIC LEATHER. 9 July 63, 4p. 115.652 USSR.
Order from INT $11.40

Trans. of Russian patent 115.652 by M. F. Shostakofski and A. M. Xomytor, filed 12 Aug 55.

DESCRIPTORS: Manufacturing methods, *Artificial leather.

Chubukov, A. A., Ivanov, A. V., and Chernogorov, L. L.
CLEANING OF THE SPINNERET IN THE PRODUCTION OF VISCOSE FIBER [Ochistka Fil'ev pri Proizvodstve Viskoznogo Volokna]. [1963] 4p
Order from ATS $5.50 ATS-35Q71R

Trans. of Khim[icheskie] Volokna (USSR) 1963, no. 1, p. 69-70.
Another trans. is available from OTS or SLA $1.10 as 63-18376 [31 May 63] [5]p.

DESCRIPTORS: *Fibers (Synthetic), *Rayon, *Viscose, Production, *Cleaning.

Diemunsch, J. and Chabert, J.
ANTISTATIC OILING DEPOSITED ON SYNTHETIC FIBERS. 30 Jan 63 [87]p. 37 refs.
Order from SLA $8.10 63-18346

Trans. of Inst[itut] Textile de France. Bull[etin] 1962, no. 102, p. 887-944.

DESCRIPTORS: *Fibers (Synthetic), Textiles, Electrostatics, Static electricity, *Resistance (Electrical), *Humidity, Filaments, Stretch forming, Rupture, Surfaces, Oils, Films, Deposits, Lubricants, Sizing, Sorption, *Polyamide plastics.

The study of the variation of the ratio of electric resistances of finished yarns as a function of relative humidity, the draw ratio of which is known, is interesting from several aspects: (a) It shows that in order to identify the presence of nonsubstantive derivatives in the surface, single fibers or multifilaments must be stretched in the tests under the conditions of relative humidity sufficiently low in order to prevent the mass resistance, which is produced at higher partial pressures, from masking the possible

rupture of the film. (b) It is shown precisely that it would be inaccurate to classify the antistatic agents as only film-forming compounds and completely substantive compounds. The physical properties of the products, emulsifiers and impurities which accompany them, and the conditions of application themselves explain that the first ones diffuse in part to the interior of the substrate and the second ones while being capable of being fixed in the fiber, also form a surface film. (c) There are two different modes of conduction according to whether the fibers finished are anhydrous or completely hydrated. In the first case, the transfer of electric charges is effected only by the surface, in the second case, their mass also contributes to their dissipation. (Author)

Ferretti, Antoniono.
PROCESS FOR THE PREPARATION OF ARTIFICIAL TEXTILE FIBERS. [1963] 10p
Order from OTS or SLA $1.10 63-18199

Trans. of French patent 813,427, filed 26 Aug 36.

DESCRIPTORS: *Textiles, *Fibers (Synthetic), *Casein, *Cellulose, Manufacturing methods.

Fischer, Emil J.
EMULSIFIERS AND OTHER AUXILIARY AGENTS FOR THE TEXTILE INDUSTRY. [1963] 3p
Order from SLA $1.10 63-18560

Trans. of mono. Triethanol Amine and Other Ethanol Amines, Berlin Lichterfelde, n.d., p. 21-22.

DESCRIPTORS: *Textile industry, Colloids, *Fibers (Synthetic), Ethanols, Amines, *Silk.

[Gershov, M. M.]
UTILIZATION OF PERACETIC ACID IN BLEACHING. Aug 63, 4p.
Order from ES $4.00

Trans. of Tekstil'naya Prom[yshlennost'] (USSR) 1960, v. 20 [no. 12] p. 76-77.

DESCRIPTORS: *Bleaching, *Acetic acids.

Güenther, E. G. and Smith, J. W.
NEW BALED TEXTILE TOW. [1963] 11p.
Order from ATS $21.00 ATS-91Q70F

Trans. of French patent 609,407 [sic] appl. filed 19 June 61 (U.S.A.) by Eastman Kodak Co.

DESCRIPTORS: *Textiles, *Fibers (Natural), Processing

Ishigaki, A., Shiraishi, T., and Fukuda, Y.
EMPLOI D'AGENTS TENSIO-ACTIFS POUR L'AMÉLIORATION DE LA QUALITÉ DE LA PULPE DISSOLVANTE. (II). AMÉLIORATION DE L'APTITUDE DU DKP À SE TRANSFORMER EN VISCOSE (Application of Surfactants for Improvement of the Viscose Processability of Sulfate-Dissolving Pulp. II). 15p 3 refs
Order from OTS, ETC or CNRS $0.80 62-26977

Trans. in French of Kami Parupu Gijutsu Kyokai-Shi (Japan) 1959, v. 13 [no. 98] p. 315-319.

DESCRIPTORS: *Wood pulp, Detergents, *Cellulose, Transformations, Ammino compounds, Ethylene oxide, *Viscose, *Surface-active substances.

Kageyama, I[kuzo] Katsushima, A[tsuo] and others.
STUDIES OF WATER-AND OIL REPELLENTS. [1963] 11p.
Order from ATS $14.75 ATS-09Q71J

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65, no. 8, p. 1207-[1210].
Another trans. is available from SLA $1.60 as 62-20485 [1962] 13p.

DESCRIPTORS: Oils, Water, Textiles, *Protective treatments, *Moistureproofing, Fluorides, Polymers, Chlorides, Coatings, Alkyl radicals, Molecular structure.

For abstract see Technical Translations 10: 208, 1963.

Kuhn, K.
TEX-COUNT SYSTEM. 29 Apr 62, 3p.
Order from SLA $1.10 63-10827

Partial trans. (p. 527) of Melliand Textilberichte (West Germany) 1960, v. 41, no. 5, p. 527-528.

DESCRIPTORS: *Fibers, *Counting methods, Textiles.

Meckel, L. and Milster, Helga.
THE DETERMINATION OF SYNTHETIC RESIN FINISHES. [1963] 23p (figs. omitted) 14refs
Order from SLA $2.60 63-18649

Trans. of Textil-Rundschau (Switzerland) 1961, v. 16, p. 593-603.

DESCRIPTIVES: *Finishes and finishing, *Plastics, *Paper chromatography, Fibers, *Textile industry, Chemical analysis, Hydrolysis, Urea formaldehyde resins, Melamine resins.

Nagai, K.
PRÉCISION SUR LA MÉTHODE DE MESURE DE LA LONGUEUR MOYENNE DES FIBRES (Precise Method for the Measurement of the Medium Length of Fibers). 17p. 5 refs.
Order from OTS, ETC or CNRS $0.80 62-26988

Trans. in French of unidentified Japanese language article, n.d.

DESCRIPTORS: *Fibers, Measurement, Mathematics.

Orthner and Reuter.
PROCESS FOR WATERPROOFING FIBROUS MATERIALS. [1963] 3p 5refs
Order from OTS or SLA $1.10 63-20037

Trans. of German patent application F 9, 205, IV c/8k, cl. 8 k, gr. 3, appl. 6 Jun 52, pub. 19 Jan 56, by Farbwerke Hoechst A.G.

DESCRIPTORS: *Textiles, *Moistureproofing, Fibers, Materials.

The invention is an extension of the process of waterproofing fibrous materials according to Appl. F 8783 IV d/8k, distinguished by the fact, that the foods are treated with solutions of one mol aluminum alcoholate and 0.2-2.5 mols, and preferably 0.3-0.8 mol high molecular weight alifatic or cycloalifatic monocarboxylic acids and solid to semi-solid paraffin hydrocarbons in anhydrous organic solvents, then dried and finished at elevated temperatures in the presence of moisture if desired. (Author) (For F 8783 IV d/8k see 63-20036)

Samishkina, M. A., Plotnikov, I. V. and others.
A PROCESS FOR THE MANUFACTURE OF SYNTHETIC SUEDE LEATHER. 9 July 1963, 3p. 126.861 USSR.
Order from INT $7.95

Trans. of Russian patent 126.861 by M. A. Samishkina, I. V. Plotnikov and others, filed 7 Dec 58.

DESCRIPTORS: *Artificial leather, Manufacturing methods.

Sigal, M. B. and Koziorova, T. N.
PREPARATION OF MONOFILAMENT FROM POLYTETRAFLUOROETHYLENE PASTE. [1963] 4p
Order from ATS $6.50 ATS-13Q72R

Trans. of Khim[icheskie] Volokna (USSR) 1962, no. 5, p. 25-27.

DESCRIPTORS: *Fibers (Synthetic), Preparation, *Halocarbon plastics, *Fluorocarbons, Ethylene derivatives.

Ulbricht, J. and Tscho, S. D.
ACRYLIC FIBERS FROM SOLUTION COPOLYMERS. PT. III. DYEING PROPERTIES, SECOND-ORDER TRANSITION TEMPERATURE AND THERMAL DISCOLORATION OF THE FIBERS. Part of thesis by S. D. Tscho, TH für Chemie Leuna-Meuseburg, 1962. 22 May 63 [20p] 11refs
Order from SLA $1.60 63-18901

Trans. of Faserforsch[ung und] Textiltech[nik] (East Germany) 1962, v. 13, p. 564-570.

DESCRIPTORS: *Fibers (Synthetic), Discoloration, Transition temperature, Dyeing, Solutions, Polymerization, *Acrylonitrile polymers, Acrylic resins.

The dyeability of fibers made from solution copolymers, whose preparation was described in Part II of the series, was investigated. The absorption of acid dyes increases with increasing content of basic comonomer (2-methyl-5-vinyl-pyridine, N-vinylbenzimidazole) in the fibers. The second-order transition temperature of the fibers in water was determined on the basis of the temperature-stress sensitivity. The greater the content of second or third component in the copolymer, the lower is the second-order transition temperature. The discoloration of the fibers due to heat was also determined as a function of the comonomer content. The thermal stability of the copolymer fibers investigated is lower than that of homopolyacrylonitrile fibers. (Author)

Wehrung, A.
SPINNING SAFETY IN THE PRODUCTION OF VISCOSE RAYON. [1963] 5p 4refs
Order from SLA $1.10 63-18578

Trans. of [Reyon, Zellwolle und Andere Chemiefasern] (West Germany) 1950, v. 28, no. 3, p. 84-87.

DESCRIPTORS: *Rayon, *Viscos, Production, Safety, Textiles, Nozzles, *Spinning

It was shown how important it is to avoid nozzle-plugging. The raw materials and danger sources, the apparatus and the used spinning nozzles are discussed. (Author)

Paints and Finishes

Bodnya, M. D. and Osovetskii, M. A.
THE POSSIBILITIES OF USING BITUMEN IN SOLUTION FORM FOR THE MANUFACTURE OF BLACK VARNISHES. Aug 63.
Order from TTIS $3.60 TTIS NS 112

Trans. of Lakokrasochnye Mat[erialy i Ikh Primenenie] (USSR) 1963, no. 1, p. 71-72.

DESCRIPTORS: *Bituminous coatings, *Varnishes, Solutions.

Dolgopol'skaya, M. A., Gurevich, E. S., and Shapiro, E. Z.
EFFECT OF A BACTERIAL FILM ON THE LEACHING OUT OF POISONS FROM ANTIFOULING PAINT [AND] TOXICITY OF POISONS USED IN ANTIFOULING PAINTS. 21 Aug 63, 25p. 14 refs. JPRS: 20733.
Order from OTS $0.75 63-31583

Trans. of [Akademiya Nauk SSSR]. Sevastopol'skaya Biologicheskaya Stantsiya. Trudy, 1960, v. 13, p. 309-324.
Another trans. (p. 309-314) is available from OTS or SLA $1.10 as 63-15968, RTS-2235, Apr 63 [10]p.

DESCRIPTORS: *Antifouling coatings, *Bacteria, Films, Solubility, Poisoning, Sea water, Solvent action, *Paints, Waxes, Cellulose ethers, Copper, Marine engineering, Tests.

For abstract see Technical Translations 10: 325, 1963.

Edlinskii, Z. and Filipska, N.
A POLAROGRAPHIC METHOD FOR THE SIMULTANEOUS DETERMINATION OF DIVALENT AND TETRAVALENT LEAD IN RED LEAD. Aug 63.
Order from TTIS $12.00 TTIS NS 118

Trans. of Lakokrasochnye Mat[erialy i Ikh Primenenie] (USSR) 1961, no. 6, p. 52-55.

DESCRIPTORS: *Polarographic analysis, *Lead, Lead compounds, Paint primers, Corrosion inhibition.

Frier, H. J.
FLOW MEASUREMENTS ON THIXOTROPIC PAINTS. Aug 63.
Order from TTIS $27.00 TTIS NS 116

Trans. of Farbe und Lack (West Germany) 1963, v. 69 [no. 2] p. 87-92.

DESCRIPTORS: *Paints, Colloids, *Fluid flows, Viscosity, Gels.

Kindervater, F.
INVESTIGATIONS INTO THE WETTABILITY OF WHITE PIGMENTS, MEASURED BY THE WETTING VOLUME METHOD. Aug 63.
Order from TTIS $36.00 TTIS NS 111

Trans. of Farbe und Lack (West Germany) 1963, v. 69 [no. 1] p. 21-26.

DESCRIPTORS: *Pigments, Surface-active substances, Surface tension, Measurement, Moisture.

Köhler, Rudolf.
RHEOLOGY AND THE COATINGS INDUSTRY. A lecture before the Trade Group "Pigments and Coating Substances" of the GDCh, Hamburg, 28 Oct 48. [1963] 17p (figs omitted) 34refs
Order from SLA $1.60 63-18182

Trans. of [Deutsche Farben-Zeitschrift] (West Germany) 1949, v. 3, p. 39-46.

DESCRIPTORS: *Pigments, *Coatings, Paints, Films, Viscosity, Elasticity, Binders, Fluid flow.

Korolev, G. V. and Mogilevich, M. M.
INVESTIGATING THE FILM-FORMING ABILITY OF SOME POLYESTER ACRYLATES. Aug 63.
Order from TTIS $21.00 TTIS NS 120

Trans. of Lakokrasochnye Mat[erialy i Ikh Primenenie] (USSR) 1963, no. 2, p. 12-16.

DESCRIPTORS: *Polyester plastics, *Acrylic resins, *Films, Plastic coatings.

Korzhuev, A. S. and Zarubitskii, A. E.
BITUMEN- AND SHALE OIL-FORMALDEHYDE RESIN EMULSION PAINTS. Aug 63.
Order from TTIS $4.50 TTIS NS 113

Trans. of Lakokrasochnye Mat[erialy i Ikh Primenenie] (USSR) 1963, no. 1, p. 70-71.

DESCRIPTORS: *Bituminous coatings, Shales, *Oils, *Formaldehyde, *Plastic paints, Colloids, Paints, Bitumens.

Muramoto, K.
RHEOLOGIE DES PEINTURES DE REVÊTEMENT DES MACHINES. 1. RHÉOLOGIE DES SOLUTIONS DE CASÉINE (Rheology of Machine Coating. 1. Rheology of Casein Solutions). 20p 10 refs
Order from OTS, ETC or CNRS $0.80 62-26895

Trans. in French of Kami Parupu Gijutsu Kyokai-Shi (Japan) 1960, v. 14 [no. 106] p. 22-28.

DESCRIPTORS: Paints, *Coatings, *Casein, *Ammonium compounds, Viscosity.

Österle, K. [M.].
ON THE PROBLEM OF DETERMINING THE THIXOTROPIC PROPERTIES OF PAINTS. Aug 63.
Order from TTIS $70.00 TTIS NS 127

Trans. of Schweizer Archiv für Angewandte Wissenschaft [und Technik] 1963, v. 29 [no. 3] p. 91-102.

DESCRIPTORS: *Paints, *Colloids, Physical chemistry, Gels, Physical properties.

Rassudova, N. S. and others.
SYNTHESIS AND INVESTIGATION OF PROPERTIES OF NICKEL TITANATES AND MIXED TITANO-NICKEL PIGMENTS. Aug 63.
Order from TTIS $21.00 TTIS NS 122

Trans. of Lakokrasochnye Mat[erialy i Ikh Primenenie] (USSR) 1963, no. 2, p. 25-29.

DESCRIPTORS: *Synthesis (Chemistry), *Nickel compounds, *Titanates, *Pigments, *Titanium compounds, Mixtures.

Sorokin, M. F. and others.
SOLVENTLESS EPOXY FINISHES, PT. I. Aug 63.
Order from TTIS $30.00 TTIS NS 121

Trans. of Lakokrasochnye Mat[erialy i Ikh Primenenie] (USSR) 1963, no. 2, p. 1-5.

DESCRIPTORS: *Epoxy plastics, *Finishes and finishing, Plastic coatings.

Stuwe, G.
WELDING AND HEAT-SEALING PLASTIC FILMS AND COMBINED FILM. [1953] 9p
Order from ATS $11.25 ATS-14Q71G

Trans. of [die] Neue Verpackung (West Germany) 1962, v. 15, no. 10, p. 1136, 1138, 1140-1142.

DESCRIPTORS: *Films, *Plastic coatings, *Welding, Adhesives, Heat treatment.

Photographic Materials

MICROCAPSULES AND METHOD FOR THEIR MANUFACTURE. [1962] 12p.
Order from OTS or SLA $1.60 63-10278

Trans. of French patent 1,290,872, app. 853,524, internat. cl. B 01 j -- B 41 m, by International Business Machines Corp. (USA) filed 22 Feb 61, granted 12 Mat 62 (pub. in Bull[etin] Off[iciel de la] Propriete Industrielle (France) 1962, no. 16) (2 U. S. appl. filed 26 Feb 60, 11,286 and 11,341, under the name of Zoila Reyes).

DESCRIPTORS: *Manufacturing methods, Paper, Solutions, Polarization, Drops, Colloids, Polymers, Colors, Chemical reactions, *Photographic paper, Photographic recording media.

PROCESS FOR MANUFACTURING TRANSFERABLE FILMS FOR ELECTROPHOTOGRAPHY. [1963] 11p
Order from ATS $17.25 ATS-04Q72F

Trans. of French patent 1,246,963, filed 17 Nov 59, granted 17 Oct 60, by Photostatic Enterprises Ltd., Australia.

DESCRIPTORS: *Electrophotography, Photographic film, Production.

Belov, S. V. and Berezin, A. M.
THE IMPORTANCE OF THE CONDITIONS OF AERIAL PHOTOGRAPHY AND VARIOUS AERIAL FILM TYPES FOR THE STUDY OF FORESTS (Znatsenie Uslovii Aerofotografirovaniya i Razlitsnych Tipov Aeroplenokh dlya Izutseniya Lesov). 19p 9 refs. MTWL-1150
Order from OTS or ETC $0.80 63-26687

Trans. of Akademiya Nauk SSSR. Laboratoriya Aerometodov, Trudy (USSR) 1958, v. 6, p. 146-176.

DESCRIPTORS: *Aerial photography, *Forestry, *Photographic film, Experimental data.

Broun, Zh. L.
PERIODICITY IN THE KINETICS OF THE DEVELOPMENT PROCESS. [1963] 3p
Order from ATS $6.00 ATS-98Q71R

Trans. of Zh[urnal] Nauchn[oi] i Prikl[adnoi] Fotogr[afii] i Kinematogr[afii] (USSR) 1963, v. 8, no. 2, p. 140-142.

DESCRIPTORS: *Photographic recording media, Processing, Dynamics.

Janker, Robert.
PROCESS FOR EQUALIZING LARGE DIFFERENCES IN BLACKNESS IN THE REDUCTION OR COPYING OF FILM NEGATIVES. [1963] 4p
Order from OTS or SLA $1.10 63-18908

Trans. of German patent 935,644 [1955].

DESCRIPTORS: *Photographic film, Photographic emulsions, Light, Photographic filters, *Photography

Khodchenko, A. N., Grechko, M. K., Vilenskii, Yu. B., and Al'Perovich, M. A.
THE EFFECT OF TIME OF CHEMICAL RIPENING ON THE OPTICAL SENSITIZATION OF EMULSIONS. [1963] [20p] 23refs
Order from OTS or SLA $1.60 63-20020

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1963, v. 8, no. 3, p. 167-[174]. Another trans. is available from ATS $9.00 as ATS-41Q71R [1963] 8p.

DESCRIPTORS: *Photographic emulsions, Aging (Materials), Optical properties, Sensitivity, Dyes, Silver compounds, Halides, Absorption spectrum.

An investigation of a number of photographic emulsions at various stages of second ripening with respect to their capability of being sensitized with dyes with varying propensity to aggregation during absorption on the surface of silver halide was carried out. It is shown that as a rule the character of dye absorption-spectra does not change in emulsions during second ripening; however, in certain cases a redistribution of the J-states does take place. The effect of optical sensitization increases as the time of second ripening is increased, and when the time is optimum then the sensitization reaches a maximum in the majority of cases. (Author)

Khotyanovich, S. I. and Gikene, A. Yu.
PROBLEM OF PRODUCING ELECTROPHOTOGRAPHIC IMAGES IN LIQUID DEVELOPERS. [31 Jan 63] [12p] 4refs
Order from OTS or SLA $1.60 63-18767

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1962, v. 7, no. 1, p. 30-35. Other translations are available from OTS or SLA $1.10 as 62-18592 [1962] 8p; 62-20374 [1962] 6p; 63-10727 [1962] 10p.

DESCRIPTORS: *Electrophotography, *Photographic images, Processing, Liquids, *Photographic chemicals, Dyes, Carbon compounds, Chlorides.

It was shown that a surface active substance - lecithin - is a sufficiently effective stabilizer of a reversing liquid developer. After introducing lecithin into the developer, its period of serviceability increases to 2 months. Further investigations revealed, that the reversing liquid developer, containing printing pigment No. 8065, is more stable. (Author)

Kiwaki, Hisatomo [Komeiji] Shigehiko, and Nakasone [H]oyu.
REVERSAL DEVELOPMENT OF CONTINUOUS TONE IN ELECTROPHOTOGRAPHY BY MAGNETIC BRUSH METHOD. [1963] [10p] (foreign text included) 4refs
Order from SLA $1.10 63-18805

Trans. of Denshi Shashin (Japan) 1962, v. 4, no. 1, p. 18-22
Another trans. is available from ATS $9.50 as ATS-70Q67J [1963] 8p.

DESCRIPTORS: *Electrophotography, *Photography, Photographic images, Photographic processors.

Some experimental data are reported on reversal development of continuous tone latent images on electrophotographic layer. It makes use of the phenomena that the corona charging is considerably suppressed at the surface of electrophotographic layer when deposited with somewhat conductive toner particles. The process is as follows: First, the photoconductive layer after exposure is developed using a magnetic brush (powdered iron mixed with semi-conductive toner particles), and then the layer is completely discharged by lightexposure and by natural leakage. Then, the powder-deposited layer is re-charged by corona in the dark, producing reversed latent images on the layer. The image is redeveloped by another magnetic brush, containing toner particles for common printing use (not necessarily semi-conductive), thus reversed visible images are given. The above mentioned method is suitable for representing continuous tone images. Theoretical discussions are given with some photographic examples. (Author)

Köllner, H.
COLOR POSSIBILITIES OF XEROGRAPHY. [1963] 9p
Order from ATS $13.85 ATS-08Q71G

Trans. of Bild [und] Ton (East Germany) 1962, v. 15, no. 2, p. 34-38.
Another trans. is available from SLA $1.60 as 63-18069 [1963] 14p.

DESCRIPTORS: *Electrophotography, Color film.

Köllner, H.
ELECTROGRAPHIC RECORDING PROCESSES. [1963] 7p
Order from ATS $10.00 ATS-16Q69G

Trans. of Bild [und] Ton (West Germany) 1963, v. 16, no. 1, p. 7-10.

DESCRIPTORS: *Electrophotography, Processing.

Köllner, H.
ELECTROGRAPHIC RECORDING PROCESSES (CONTINUATION AND CONCLUSION). [1963] 10p
Order from ATS $15.65 ATS-79Q70G

Trans. of Bild [und] Ton (West Germany) 1963, v. 16, no. 2, p. 39-44.

DESCRIPTORS: *Electrophotography, Processing.

Levi, S. M., Smirnov, O. K., Ivanchikova, A. F., and Kochneva, S. N.
THE ANTICOMET EFFECT OF WETTING-AGENTS IN COATING A PHOTOGRAPHIC EMULSION. [1963] [14p] 11refs
Order from OTS or SLA $1.60 63-18533

Trans. of [Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii] (USSR) 1963, v. 8, no. 2, p. 87-91.

DESCRIPTORS: *Photographic emulsions, *Photographic chemicals, *Surface active substances, *Adsorption, Coatings, Esters, Thio radicals, Succinic acids, Propionic acids, Sodium compounds.

The adsorption properties and the kinetics of adsorption of the acid esters of sulfosuccinic acid as well as the neutral esters of sulfosuccinic acid and the esters of sulfopropionic acid, pass through an optimal value when 12-16 carbon atoms, i.e. $R' = R'' = 2R = C_{12} - C_{16}$ are present in the hydrophobic part of the molecule. The Na salts of the acid esters of sulfosuccinic acid obtained from a mixture of secondary $C_{12} - C_{16}$ alcohols, products of oxidation of paraffins, are of interest for practical purposes. (Author)

Marechal, A., Croce, P., and Dietzel, K.
IMPROVING CONTRAST IN DETAILS OF PHOTOGRAPHIC IMAGES BY FILTERING OF SPATIAL HARMONICS. [1963] 8p
Order from ATS $7.75 ATS-56Q71F

Trans. of Opt[ica] Acta (France) 1958, v. 5, p. 256-262.

DESCRIPTORS: *Photographic images, Photographic filters, Resolution.

Pearlman, D.
A NEW PHOTOCONDUCTOGRAPHIC PROCESS. [1963] 14p. (figs. omitted) 10 refs.
Order from OTS or SLA $1.60 63-18331

Trans. of U. S. patent 109,977, appl. 617,508, filed 15 May 61, by Koak, S. A.

DESCRIPTORS: *Photoelectric materials, *Images, Photoconductivity, *Photographic recording media, Photographic chemicals, Color film.

The invention mainly has for its purpose a process for obtaining a direct positive image in a simple and effective manner, said image being stable and of a very good definition. The process of the invention creates an image in the form of a variation of the electric conductivity in a photoconductive layer such as a selenium layer or a zinc oxide layer in a resin. In the case of selenium, the image should be developed in the course of exposure and, in the case of zinc oxide based photoconductors, the image should be developed in the course of exposure or immediately thereafter when the conductivity image persists. The electric conductivity image is then converted in a visible image by a process which comprises an electrolytic reduction. (Author)

Popov, Igor' Vladimirovich.
AERIAL PHOTOGRAPHY AND A STUDY OF INLAND WATERS. 20 Sep 63, 172p JPRS: 21163.
Order from OTS $3.00 63-31799

Trans. of mono. Aerofotos'emka i Izuchenie Vod Sushi, Leningrad, 1960, 167p.

DESCRIPTORS: *Aerial photography, Inland waterways, Maps, *Hydrology, Natural resources, *Photogrammetry, *Photo interpretation, Scale, Terrain models, History, Photography.

Contents:
Chemistry, Optics, and Aviation--Origins of Aerial Photography
Some Memorable Dates From the History of Aerial Photography
How Aerial Photography Is Conducted and the Materials Which It Provides
Simulated Terrain Model
How to Read an Aerial Photo
What the Aerial Photograph Can Say About Rivers, Lake Lakes and Swamps

Pruss, P. Kh. and Maksina, V. I.
THE DIFFUSION OF LIGHT IN AN EMULSION LAYER AND THE RESOLVING POWER OF A PHOTOGRAPHIC MATERIAL. [23 Jan 63] 19p 12refs
Order from OTS or SLA $1.60 63-18782

Trans. of Zhur[nal] Nauch[noi i] Priklad[noi] Fot[ografii i] Kinemat[ografii] (USSR) 1959, v. 4, no. 4, p. 259-268.

DESCRIPTORS: *Photographic emulsions, Light, *Diffusion, *Resolution, Thickness, Silver compounds, Halides, Photographic recording media.

Results are given of experiments in the study of the distribution of the light flux in an emulsion layer of a photographic material, and also of experiments in the investigation of the relation of the resolving power of photographic materials to the thickness of the emulsion layer and to the concentration of silver halide in the layer. (Author)

Sheberstov, V. I. and Vendrovskii, K. V.
INVESTIGATIONS OF THE TEMPERATURE RELATIONSHIPS OF PHOTOGRAPHIC DEVELOPMENT. VIII. RELATION OF THE KINETICS AND ACTIVATION-ENERGY OF DEVELOPMENT TO THE STATE OF THE LATENT IMAGE. [1963] 20p 5refs
Order from OTS or SLA $1.60 63-18183

Trans. of [Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii] (USSR) 1962, v. 7, no. 2, p. 103-111. Another trans. is available from OTS or SLA $1.60 as 63-18073 [1963] 13p.

DESCRIPTORS: *Photographic emulsions, *Photographic images, Reduction (Chemistry), Processing, Photographic film, Photosensitivity, Light, Optical properties, Silver compounds, Halides, Crystal structure.

Tsujiuchi, J.
RESTORATION OF IMAGES WITH ABERRATION BY FILTERING OF SPATIAL FREQUENCIES. III. RESTORATION OF AN IMAGE PHOTOGRAPHED WITH A BIFOCAL FILTER. [1963] 8p
Order from ATS $8.65 ATS-59Q71F

Trans. of Opt[ica] Acta (France) 1961, v. 8, p. 161-168.

DESCRIPTORS: *Photographic images, Photographic filters, Corrections, *Filters (Electromagnetic wave), Distortion.

Vilenskii, Yu. B. and Timofeeva, R. V.
A METHOD OF INVESTIGATING DIFFUSION OF OPTICAL SENSITIZERS IN PHOTOGRAPHIC LAYERS. [1963] 6p.
Order from ATS $9.25 ATS-38Q70R

Trans. of Usp[ekhi] Nauchn[oi] Fotogr[afii] (USSR) 1962, v. 8, p. 56-60.

DESCRIPTORS: *Photographic chemicals, Diffusion, *Photochemistry.

Plastics

Abel, Günter.
HIGH-FREQUENCY WELDING OF POLYVINYL CHLORIDE FOILS. [1963] 16p (figs formulae omitted)
Order from SLA $1.60 63-18769

Trans. of [der] Plastverarbeiter (West Germany) 1962, v. 13 [no. 12] p. 651-656.

DESCRIPTORS: *Polyvinyl chloride, *Plastic films, *Welding, High frequency, *Thermosetting plastics, Paper, *Thermal insulation, Electricity, Electrodes, Electric potential, Foils, Oscillators.

Topics include: high-frequency heating and its conditions; properties of polyvinyl chloride foils and other thermoplastics, and consideration of determining factors for high frequency welding; insulating materials, especially hard paper; heat requirement, conversion into electrical energy and welding time; capacitively-operating electrode surface; calculation of high frequency welding voltage; thick foils, thin foils, efficiency and time; efficiency of high frequency oscillators; adaptation and possibilities for correction; welding press, pressure and plate size; and, electrode construction, from an electric point of view.

Abele, Günter.
HIGH FREQUENCY WELDING OF PVC FILM. [1963] [21p] (figs. omitted)
Order from SLA $2.60 63-18763

Trans. of [der] Plastverarbeiter (West Germany) 1963, v. 14, p. 91-98.

DESCRIPTORS: *Polyvinyl chloride, *Plastic films, *Welding, High frequency, *Thermosetting plastics, *Thermal insulation, Electrodes.

Alishoev, V. R., Neiman, M. B., and Kovarskaya, B. M.
THERMO-OXIDATIVE DESTRUCTION AND STABILIZATION OF POLYFORMALDEHYDE. [1963] 10p 11refs
Order from OTS or SLA $1.10 63-18650

Trans. of [Plasticheskie Massy] (USSR) 1962, no. 7, p. 11-14.

DESCRIPTORS: *Formaldehyde, *Polymers, Stabilization, Pyrolysis, Oxidation, Heating, Mechanical properties, Reaction kinetics.

The thermo-oxidative destruction of polyformaldehyde is an auto-accelerating chain reaction. Branch formation during the oxidation of polyformaldehyde is not related to the disintegration of hydrogen peroxide. A series of anti-oxidants significantly increases the induction period of the thermo-oxidative destruction of polyformaldehyde. During the thermo-oxidative destruction of polyformaldehyde, the products of reaction are formaldehyde, CO, CO_2, H_2 and H_2O. During the heating under pressure, the molecular weight of unstabilized polyformaldehyde decreases; while its mechanical properties remain practically unchanged. (Author)

Andrianov, K. A.
NEW WAYS OF PREPARING RESINOUS, FILM-FORMING MATERIALS ON THE BASE OF SILICO-ORGANIC COMPOUNDS (O Novykh Putyakh Polucheniya Smoloobraznykh Plenkoobrazuyushchikh Veshchestv na Osnove Kremniiorganicheskikh Soedinenii). [1963] [21p] (foreign text included) 32refs
Order from OTS or SLA $2.60 63-18611

Trans. of Promyshlennost' Organicheskoi Khimii (USSR) 1939, v. 6, no. 4/5, p. 203-207.

DESCRIPTORS: *Plastic films, *Thermosetting plastics, Heat-resistant plastics, Silicon compounds, *Silicones, Substitution reactions, Pressure, Synthesis (Chemistry), *Varnishes.

Anto, T., Imoto, T., and Imoto, M.
PREPARATION OF POLYAMIDES FROM CYANOETHYLATED COMPOUNDS OF BISPHENOLS. [1963] 14p
Order from ATS $18.50 ATS-60Q71J

Trans. of Kogyo Kagaku Zasshi (Japan) 1962, v. 65, no. 1, p. 132-136.

DESCRIPTORS: *Polyamide plastics, Preparation, Cyano radicals, Ethyl radicals, *Phenols.

Braun, D., Betz, W., and Kern, W.
POLYMERIZATION OF STYRENE WITH BUTYLLITHIUM. III. STEREOSPECIFIC POLYMERIZATION WITH ORGANIC ALKALI METAL COMPOUNDS. [1963] 6p 13refs
Order from SLA $1.10 63-20263

Trans. of Makromolekulare Chemie (Switzerland) 1960, v. 42, p. 89-94.

DESCRIPTORS: *Styrene plastics, *Polymerization, *Alkali metal compounds, Alkyl radicals, *Lithium compounds, Solvents, Stereochemistry, Metalorganic compounds.

Styrene can be polymerized stereospecifically by linear lithium alkyls at low temperatures, using branched lithium alkyls; however, only atactic polymers are obtained. It is suggested that the stereospecitic polymerization is initiated by associations of the lithium organic compounds. (Author)

Danusso, F[erdinando] and Sianesi, D[ario].
ON THE MECHANISM OF STEREOSPECIFIC POLYMERIZATION AND CO-POLYMERIZATION OF VINYL-AROMATIC MONOMERS. NOTE I. EXPERIMENTAL RESULTS. 24p 14refs MTWL-1146.
Order from OTS or ETC $0.90 63-26634

Trans. of la Chimica e l'Industria (Italy) 1962, v. 44, no. 5, p. 474-482.
Another trans. is available from CTS (Chem) $26.00, subsequent copies $4.25 ea. as CTS (Chem)-293, Aug 62, 6500 words.

DESCRIPTORS: *Vinyl plastics, *Styrene plastics, *Polymerization, Copolymerization, Mechanics, Chemical reactions, Experimental data.

Danusso, F[erdinando].
ON THE MECHANISM OF STEREOSPECIFIC POLYMERIZATION AND COPOLYMERIZATION OF AROMATIC VINYL MONOMERS. NOTE II. POSTULATION OF THE KINETIC AND CHEMICAL MECHANISM. 26p 27 refs MTWL-1147.
Order from OTS or ETC $1.00 63-26635

Trans. of la Chimica e l'Industria (Italy) 1962, v. 44, no. 6, p. 611-620.
Other translations are available from SLA $3.60 as 63-18281 [1963] [37p] and from CTS (Chem) $31.60 subsequent copies $5.25 ea. as CTS (Chem)-297.

DESCRIPTORS: *Vinyl plastics, *Styrene plastics, *Polymerization, Copolymerization, Mechanics, Chemical reactions, Theory.

(See also 63-26634)

Ehlers, G.
THE STRUCTURE OF RESIN-BOUND CONSOLIDATED PRODUCTS. [1963] 6p (figs. omitted) 2refs
Order from SLA $1.10 63-18521

Trans. from Kunststoffe (Germany) 1943 [v. 33] no. 4.

DESCRIPTORS: *Thermosetting plastics, Stability, Mechanical properties, Absorption, Moisture, Costs, Material forming, Design, Tolerances (Mechanics).

Gorol, H.
TOLERANCES OF SYNTHETIC RESIN-BOUND CONSOLIDATED PRODUCTS AND THEIR STANDARDIZATION. [1963] 10p (figs. tables omitted) 1ref
Order from SLA $1.10 63-18520

Trans. of Kunststoffe (Germany) 1941 [v. 31] no. 6 [p. 223-225].

DESCRIPTORS: *Thermosetting plastics, *Tolerances (Mechanics), Standards.

Ieda, M. and Shinohara, U.
PHÉNOMÈNE D'ABSORPTION DANS LES RÉSINES DE CHLORURE DE POLYVINYLE PLASTIFIÉES SOUS UNE TENSION CONTINUE (Absorption Phenomenon with Plastified Polyvinyl Chlorides under Continual Stress). 27p 10 refs FX-279.
Order from OTS, ETC or CNRS $1.01 62-26883

Trans. in French of Denki Gakkai Zasshi (Japan) 1959 [v. 79] July, p. 843ff.

DESCRIPTORS: Vinyl chlorides, Polymers, Pressure, Absorption, *Polarization, Experimental data, *Polyvinyl chloride.

Kamenskii, I. V., Smirnova, E. P., and Tsepelev, A. S.
MELAMINE-ACETONE-FORMALDEHYDE RESINS. 14 Jun 63 [8p] 6refs
Order from OTS or SLA $1.10 63-18895

Trans. of Plasticheskie Massy (USSR) 1960, no. 2, p. 17-19.

DESCRIPTORS: *Melamine-formaldehyde resins, *Acetones, *Amino plastics, *Laminated plastics, Thermosetting plastics, *Glass textiles, Fire-resistant textiles, Physical properties, Dielectric properties, Condensation reactions

The possibility of obtaining a new form of melamine-formaldehyde (M-F) modifying these with acetone, introduced into the reaction after formation of the hydroxymethyl derivatives of melamine is shown. The M-acetone-F resins synthesized differ from the unmodified resins by their higher stability, solubility, and other properties. A glass textolite based on the resin obtained is incombustible, and is characterized by high thermal stability (240° by the Martens test), resistance to water and chemicals, resistance to the action of organic solvents, and good dielectric properties. The yield of M-acetone-F resin based on melamine is 150%, while the yield of M-F resin does not exceed 130%. (Author)

Kamenskii, I. V., Vorob'ev, V. P. and others.
POLYMERS ON THE BASIS OF THE CONDENSATION PRODUCTS OF FURFUROL WITH ACETONE. 8p. 4 refs.
Order from OTS or ETC $0.80 63-27149

Trans. of Plasticheskie Massy (USSR) 1963, no. 3, p. 17.

DESCRIPTORS: *Furfuryl alcohols, *Acetones, Condensation reactions, *Polymers.

Kimura, Tadashi, Ishida, Iwao, and Yoshida, Keinosuke.
POLYMERIZATION OF VINYL ACETATE IN THE PRESENCE OF POLYVINYLCHLORIDE. [1963] 11p
Order from K-H $11.00 K-H 12792

Trans. of Kagaku to Kogyo [Osaka] (Japan) 1962, v. 36, p. 129-132, 142.

DESCRIPTORS: *Polyvinyl chloride, *Acetates, *Vinyl radicals, Polymers, Polymerization.

Medvedeva, F. M. and Andrianova, N. A.
THE PREPARATION OF MIXED POLYESTERS OF ETHYLENE GLYCOL WITH 2,5-FURAN DICARBOXYLIC AND TEREPHTHALIC ACIDS. Aug 63.
Order from TTIS $3.60 TTIS NS 115

Trans. of Plasticheskie Massy (USSR) 1963, no. 2, p. 14-15.

DESCRIPTORS: *Phthalic acids, *Carboxylic acids, *Glycols, *Ethylenes, Esters, Polymers, Polyester plastics, Synthesis (Chemistry).

Mori, K[ohjiro].
MANUFACTURE OF RESIN MOLDING COMPOUNDS. [1963] 5p
Order from ATS $11.00 ATS-89Q71J

Trans. of Japanese patent 16,438/1962, 13 Oct 62, appl. no. 11,440/1960, 31 Mar 60, by Riken Gosei Jushi Co.
Another trans. is available from OTS or SLA $1.10 as 63-16320 [1963] 6p.

DESCRIPTORS: *Plastics, *Molding materials, Manufacturing methods.

Nagashima, Masao, Hide, Itta, Muroyama, Tsutomu, and Watanabe, Susumu.
NEW RESIN COMPOSITE WITH GOOD HARDENING PROPERTY. [1963] 10p
Order from OTS or SLA $1.10 63-18906

Trans. of published Japanese patent 37 Showa (1962) - 2987 [cl.] 25 H 72 (26 C 111) announced 30 May 62, appl. no. 34 Showa (1959) - 24730, appl. 4 Aug 59, by Sumitomo Bakelite Co., Ltd.

DESCRIPTORS: *Amino plastics, *Thermosetting plastics, *Epoxy plastics, Hardening, Addition reactions

Natta, G., Pasquon, I. and others.
KINETICS OF PROPYLENE POLYMERIZATION WITH HETEROGENEOUS CATALYSTS OF HIGH STEREOSPECIFICITY. NOTE VII. STUDY OF THE POLYMER CHAIN INITATION STEPS. 15p. 14refs MTWL-1145
Order from OTS or ETC $0.80 63-26633

Trans. of la Chimica e l'Industria (Italy) 1962, v. 44, no. 6, p. 621-626.
Another trans. is available from CTS (Chem) $12.00, subsequent copies $2.00 ea. as CTS (Chem)-298, 3000 words.

DESCRIPTORS: *Propenes, *Polymerization, Mechanics, Chemical reactions, Catalysts, *Polyethylene plastics.

Natta, G., Pino, P., Mantica, E., and Danusso, F.
STEREOSPECIFIC POLYMERIZATION OF α-OLEFINS. [1963] 13p
Order from K-H $13.00 K-H 5335 b

Trans. of la Chimica e l'Industria (Italy) 1956, v. 38, no. 2, p. 124-127.
Another trans. is available from RIS $17.00 as RIS-96959 [17 Apr 59] 12p.

DESCRIPTORS: *Polyethylene plastics, Polymers, Synthesis (Chemistry), Polymerization.

Paoletti, G. and Arrigo, M.
METHODS FOR DETERMINING FERROUS-AND FERRIC IRON IN GLASS AND ITS RAW MATERIALS (Metodi per la Determinazione del Ferro Ferroso e Ferrico nel Vetro e nelle sue Materie Prime). [1963] [25p] (foreign text included) 94refs
Order from SLA $2.60 63-18593

Trans. of Vetro e Silicati (Italy) 1960, v. 4, no. 19, p. 9-16.

DESCRIPTORS: *Glass, *Iron compounds, *Colorimetric analysis, Silicates, Solutions, Reagents, Reduction (Chemistry), Oxides, Chemical reactions

Among the various colorimetric methods for determining the iron content, that with o-phenantoline seems to be best suitable for the analysis of glass and its raw materials. The various details of the operation are examined critically and the technique necessary to obtain the best results are shown. The method is suitable for the determination of ferrous and ferric iron, provided the modalities of the attack do not change the oxide-reduction equilibrium. A quick analytical method is suggested for ferrous and total iron, which could be used for control and series analysis (Author)

Press, Jack Joshua.
A PROCESS FOR THE PREPARATION OF STEREOREGULAR POLYOLEFINS. [1963] 3p
Order from ATS $5.00 ATS-30Q71PT

Trans. of Portuguese patent application 39,436, n.d., appl. no. 113,972 filed in U.S.A., 4 Apr 61, issued 31 Mar 62.

DESCRIPTORS: *Polyethylene plastics, Preparation, Molecular isomerism.

Shreiner, S. A., Zubov, P. I., and Volkova, T. A.
INTERNAL STRESSES IN EPOXY RESIN FILMS. [1963] [6p] 8refs
Order from OTS or SLA $1.10 63-20272

Trans. of Vysokomolekulyarnye Soedineniya (USSR) 1962, v. 4 [no. 11] p. 1714-1717.

DESCRIPTORS: *Epoxy plastics, *Thermal stresses, *Plastic films, Hardening.

The increase and relaxation of stresses in epoxy resin ED-5 films in relation to their hardening temperature was investigated by a visual optical method. Thermal stresses arise at elevated temperatures. The relaxation of these stresses proceeds according to Shvedov's equation. The relaxation periods depend upon the nature of the hardening agent. With films formed in the presence of polyethylenepolyamine, equal and non-

Signer, R. and Hochuli, A.
AUTOMATIC MULTISTAGE FRACTIONATION OF POLYDISPERSE MACROMOLECULAR SUBSTANCES. [1963] 5p
Order from ATS $7.25 ATS-11Q68G

Trans. from Kunststoff-[Rundschau] (West Germany) 1956, v. 3, no. 2.

DESCRIPTORS: Plastics, *Polymers, Colloids, *Fractionation, Automatic.

Surov, A. A. and Borisov, S. A.
CONCERNING METHODS OF PREPARING POLYCHLORVINYL RESINS. [1963] 9p
Order from OTS or SLA $1.10 63-18116

Trans. of [Promyshlennost' Organicheskoi Khimii] (USSR) 1940, v. 7 [no. 12] p. 660-661.
An abstract trans. is available from OTS or SLA $1.10 in 62-14100 [1962] 2p.

DESCRIPTORS: *Polyvinyl chloride, Ethanes, Acetylenes, Polymerization, Synthesis (Chemistry).

Takahashi, Gisaku.
PREPARATION METHOD FOR MOISTURE-PROOF CELLOPHANE WHOSE PRINCIPAL RESIN OF THE MOISTURE-PROOF FILM HAS A CROSSLINKED STRUCTURE. [1963] 8p
Order from OTS or SLA $1.10 63-18907

Trans. of published Japanese patent 37 Showa (1962) - 3464, [cl.] 25 J 322, announced 4 Jun 62, appl. no. 35 Showa (1960) - 40320, appl. 6 Oct 60, by Tokyo Serofan-shi Kabushiki Kaisha.

DESCRIPTORS: *Plastic films, *Moistureproofing, *Moisture resistance, *Varnishes, Molecular structure, Organic solvents, Vinyl radicals.

A preparation method for moistureproof cellophane in which a crosslinked structure is formed, characterized by the fact that, when preparing moisture-proof

Weslau, Hermann.
THE PROBLEM OF CHAIN LENGTH DISTRIBUTION IN THE STEPWISE METALLOORGANIC SYNTHESIS. [1963] 14p
Order from K-H $14.00 K-H 10024 #7

Trans. of [Justus Liebigs] Annalen der Chemie (West Germany) 1960, v. 629, no. 1/3, p. 198-206.
Another trans. is available from SLA $1.60 as 61-20504 [1961] 14p.

DESCRIPTORS: *Polyethylene plastics, Synthesis (Chemistry), *Ethylenes, Polymerization, Molecular properties, *Metalorganic compounds, *Ziegler catalysts, *Aluminum compounds, Alkyl radicals.

For abstract see Technical Translations 7: 71, 1962.

Windemuth, E.
PROCESS FOR THE PREPARATION OF FOAMED MATERIALS. [1963] 9p
Order from OTS or SLA $1.10 63-20034

Trans. of German patent application F 6821, 17 Jul 51.
Another trans. is available from RIS $30.00 as RIS-6241, 13p.

DESCRIPTORS: *Expanded plastics, *Polyester plastics, Foams, Chemical reactions.

The invention involves a process for the preparation of foamed products, distinguished by the fact that linear or weakly branched polyesters with molecular weights in excess of 1000 are treated with excess polyisocyanate or compounds reacting like polyisocyanate over the amount calculated to react with the terminal groups and the mixture then treated with water preferably in the presence of an accelerator. Mixtures of polyesters with polyglycol ethers containing at least two free hydroxyls are used. The reaction with water is carried out prior to complete formation of the isocyanate polyester. (Author)

Yoshimi, Naoki, Yamao, Masayoshi, Kawakita, Masayuki, and Tanaka, Shigeyuki.
CONSIDERATIONS ON THE HARDENING REACTION OF METHYLOLMELAMINE BY GAS CHROMATOGRAPHY AND INFRARED ABSORPTION SPECTROSCOPY. [1963] 12p 13refs
Order from SLA $1.60 63-18909

Trans. of Kogyo Kagaku Zasshi (Japan) 1963, v. 66, no. 2, p. 279-283.

DESCRIPTORS: *Melamine-formaldehyde resins, *Thermosetting plastics, *Melamine, *Amino plastics, *Amines, *Methyl radicals, Hardening, Heat treatment, Gas chromatography, Infrared spectroscopy, Condensation reactions

In order to determine the mechanism of the heat-hardening reaction of methylolmelamine, the gaseous substance which evolves from a heated sample was analyzed by gas chromatography and the infrared absorption spectrum of the product resin was measured; and upon investigation of the reaction mechanism from the results of these two, the following points were made clear. (1) Although the reactivity of methylolmelamine was small at 130 ~150°C, marked reactivity was demonstrated at 170°C. (2) It appeared that equation i constituted the main part of the hardening reaction at F/M = 1.0 and F/M = 1.8; that equation i and equation ii or equation iii occurred simultaneously at F/M = 3.1; and that equation ii and equation iii occurred simultaneously at F/M = 6.0. (i) $-NH_2 + -NH-CH_2OH \rightarrow -NH-CH_2-NH- + H_2O$. (ii) $>N-CH_2OH + >N-CH_2OH \rightarrow >N-CH_2-N< + CH_2O + H_2O$. (iii) $>N-CH_2OH + -N<^{CH_2OH}_{CH_2OH} \rightarrow >N-CH_2-NH- + 2CH_2O + H_2O$. (Author)

Ziegler, Karl.
ORGANOMETALLIC SYNTHESIS OF HIGHER ALIPHATIC COMPOUNDS FROM LOWER OLEFINS IN PRACTICE AND IN THEORY. [1963] 22p
Order from K-H $22.00 K-H 10610 b

Trans. of Angewandte Chemie (West Germany) 1960, v. 72, no. 22, p. 829-835.
Other translations are available from ATS $22.80 as ATS-21N49G [1961] 14p; SLA $2.60 as 61-20688 [1961] [30]p.

DESCRIPTORS: *Polyethylene plastics, *Ethylenes, Polymerization, *Metalorganic compounds, *Aluminum compounds, Alkyl radicals, *Ziegler catalysts, Synthesis (Chemistry).

Rubber and Elastomers

IMPROVEMENT IN THE TREATMENT OF RUBBER. [1963] 17p
Order from OTS or SLA $1.60 63-18185

Trans. of French patent 712,775, to Naugatuck Chemical Co. [1931].

DESCRIPTORS: *Rubber, *Vulcanizates, pH, Reduction (Chemistry), Additives, Inorganic acids, Salts, Mechanical properties, Manufacturing methods.

RUBBER-LIKE POLYMERS FROM 2-CHLORO-1,3 BUTADIENE. [1963] 5p
Order from OTS or SLA $1.10 63-18197

Trans. of French patent 799,345 [1936].

DESCRIPTORS: *Elastomers, *Chloroprenes, *Thermoplastics, Ketones, Storage, Polymers, Rubber.

Crespi, G. and Bruzzone, M.
THE VULCANIZATION OF CHLORINATED ETHYLENE-PROPYLENE COPOLYMERS. [La Vulcanizzazione dei Copolimeri Etilene-Propilene Clorurati]. [1963] [19p] 7refs
Order from SLA $1.60 63-20056

Trans. of Chim[ica] e [l']Ind[ustria] (Italy) 1961, v. 43 [no. 2] p. 137-142.
Other translations are available from CTS (Chem) $11.60, subsequent copies $2.00/ea., as CTS (Chem)-204, 1961, 2900words and from SLA $1.60 as 61-16534 [1961] [15p].

DESCRIPTORS: Polymers, *Ethylenes, *Propenes, *Vulcanization, Chlorination, Elastomers, Aging (Materials), Polyethylene plastics, Halocarbon plastics.

For abstract see Technical Translations 6: 364, 1961.

Crespi, G., Flisi, U. and Arcozzi, A.
STUDIES ON THE RATE OF CRYSTALLIZATION OF CIS-1, 4-POLYBUTADIENE. 11p 5 refs MTWL-1144.
Order from OTS or ETC $0.80 63-26632

Trans. of la Chimica e l'Industria (Italy) 1962, v. 44, no. 6, p. 627-630.
Another trans. is available from CTS (Chem) $8.20, subsequent copies $1.35 ea. as CTS (Chem)-299, 2050 words

DESCRIPTORS: *Butadienes, *Polymers, Crystallization, Experimental data, Crystal growth.

Perewsky, R.
INFLUENCE DES ACTIVATEURS ANORGANIQUES SUR LE DEGRÉ DE VULCANISATION DES MÉLANGES DE CAOUTCHOUC (Influence of Inorganic Activators on the Degree of Vulcanization of Rubber Compounds). 17p 1 ref
Order from OTS, ETC or CNRS $0.80 62-26993

Trans. in French of Chemicky Prumysl (Czechoslovakia) 1956 [v. 6(31)] no. 3, p. 110-114.

DESCRIPTORS: *Rubber, *Vulcanization, Catalysts, Carbon black, Mixtures, Magnesium, Zinc, Oxides.

Thinius, Kurt.
POLYISOBUTENE: PRODUCTION, TREATMENT, AND APPLICATION AS RUBBERLIKE PLASTIC, PTS. III (IN PART)-IV. [1963] 17p 41refs
Order from SLA $1.60 63-20002

Trans. of Kautschuk und Gummi (West Germany) 1951, v. 4, p. 128-131.

DESCRIPTORS: *Polymers, *Butenes, *Ethylenes, Synthetic rubber, Plastics, Physical properties, Mechanical properties, Dielectric properties, Electrical engineering, Construction, Adhesives, *Elastomers.

Topics include: typical rubberlike properties; working in the wet way; physical and mechanical properties; application in electrical engineering; use in building technic and for coatings; and suitability for adhesives. (See also 63-20001)

Westlinning, H.
REINFORCING FILLERS FOR RUBBER. [1963] 26p
Order from K-H $26.00 K-H 12921

Trans. of Kautschuk und Gummi (West Germany) 1962, v. 15, no. 12, p. 475-481.

DESCRIPTORS: *Rubber, *Fillers, Reinforcing materials.

Wood and Paper

Dibrova, A. T.
MÉTHODE RAPIDE DE DOSAGE D'HUMIDITÉ DANS LE PAPIER (Determinating the Moisture Content of Paper). 5p 4refs.
Order from OTS, ETC or CNRS $0.80 62-26994

Trans. in French of Bumazhnaya Promyshlennost' (USSR) 1956 [v. 31] no. 8, p. 14-15.

DESCRIPTORS: *Paper, *Humidity, Drying ovens, Determination, Distilling plants, Laboratories, Oils, Electric currents.

Fujinami, N., Okamura, T., and Hirano, M.
COLLAGE DU PAPIER KRAFT EN MILIEU NEUTRE AVEC DE L'ALUMINATE DE SODIUM (The Manufacture of Neutral Sized Paper Using Sodium Aluminate). 23p 3 refs FX-468.
Order from OTS, ETC or CNRS $0.89 62-26890

Trans. in French of Kami Parupu Gijutsu Kyokai-Shi (Japan) 1960, v. 14 [no. 115] p. 675-682.

DESCRIPTORS: *Paper, Bonding, Sodium compounds, Aluminates, Resins, *Aluminum compounds, Mechanical properties.

Horio, M. and Takahama, M.
PRÉHYDROLYSE EN CONTINU DANS LA PRÉPARATION DU DKP. PULPE DISSOLVANTE PAR LE PROCÉDÉ AU SULFATE (Preparation of DKP by Continued Hydrolysis. Soluble Pulp by the Sulfate Process). 14p
Order from OTS, ETC or CNRS $0.80 62-26978

Trans. in French of Kami Parupu Gijutsu Kyokai-Shi (Japan) 1959, v. 13 [no. 94] p. 23-27.

DESCRIPTORS: *Wood pulp, *Hydrolysis, Cellulose, Production.

Hosoi and Migita.
ÉTUDES SUR LE GONFLEMENT DES FIBRES. VI. PROJET D'UNE MÉTHODE DONNANT QUANTITATIVEMENT L'APTITUDE AU GONFLEMENT DES FIBRES (The Swelling of Fibers. VI. Making Fibers Quantitatively Fit for Swelling). 12p 3 refs
Order from OTS, ETC or CNRS $0.80 62-26894

Trans. in French of Kami Parupu Gijutsu Kyokai-Shi (Japan) 1959, v. 13 [no. 104] p. 806-810.

DESCRIPTORS: Fibers, Wood pulp, *Cellulose, *Phosphoric acids, Solutions, Experimental data, *Wood pulp fibers.

Kimura and Terratani.
ÉTUDE SUR LES PULPES ET LA PAPETERIE. 10. CUISSON DU PIN ROUGE DANS UN MÉLANGE DE SOLUTIONS DE SULFITE DE SOUDE ET DE SULFURE DE SOUDE (Paper Pulp and Paper Manufacture. 10. Cooking of Red Pine in a Mixture of Solutions of Sodium Sulfite and Sodium Sulfide). 11p.
Order from OTS, ETC or CNRS $0.80 62-26893

Trans. in French of Mokuzai Kenkyu (Japan) n. d. no. 14, p. 66-73.

DESCRIPTORS: *Paper, *Wood pulp, *Sulfate pulp, Sodium compounds, Sulfites, Sulfides, Paper, Chemical properties, Mechanical properties, Pine.

Klauditz, W., Ulbricht, H. J., and Kratz, W.
PRODUCTION AND PROPERTIES OF LOW DENSITY PARTICLE BOARD. [1963] [23p]
Order from SLA $2.60 63-18519

Trans. of Holz als Roh- und Werkstoff (West Germany) 1958, v. 16, no. 12, p. 459-466.

DESCRIPTORS: *Fiberboard, *Particles, Density, Production, Amino plastics, Panels (Structural), Mechanical properties, Plywood.

Thin and flat flaker-cut particles of spruce, pine, poplar and beech as well as flaxshives were used in tests to produce low-density particle board with a urea-formaldehyde resin content of approximately 6.9 % and densities of from 0.30 to 0.50 g/cm^3 (19-31 lb/cu.ft). The tests disclosed a number of technological data, such as the bending strength, internal bond, compressive strength and thickness swell of the panels tested. Low density panels made of spruce sawdust were also tested. From the various data obtained, the conclusion was drawn that the utility of low density particle board within a density range of 0.30 to 0.40 g/cm^3 (19-25 lb/cu.ft) has commercial possibilities. (Author)

Kusumoto, M.
ÉTUDES SUR LA CUISSON HYDROTROPIQUE (Hydrotropic Delignification). 28p. 16 refs.
Order from OTS, ETC or CNRS $1.04 62-26984

Trans. in French of unidentified Japanese language article, n. d.

DESCRIPTORS: *Wood pulp, Preparation, Chemical analysis, Lignin.

Matsugu, T. and Shiraiwa, H.
TRANSFORMATION DES COMPOSANTS DU BOIS AU COURS DE L'HYDROLYSE. III. TRANSFORMATION DE LA LIGNINE PAR HYDROLYSE (Studies on Water Hydrolysis of Wood. III. Changes in Lignin Structure During Water Hydrolysis). 13p 15 refs
Order from OTS, ETC or CNRS $0.80 62-26972

Trans. in French of Kami Parupu Gijutsu Kyokai-Shi (Japan) 1959, v. 13 [no. 99] p. 371-373.

DESCRIPTORS: Wood, *Lignin, *Hydrolysis, Transformations.

Muller, M. and Meyer, E.
PROCESS FOR REMOVAL OF ROSIN FROM WOOD TO BE USED IN PAPER MANUFACTURE. [1963] 2p 6refs
Order from OTS or SLA $1.10 63-20229

Trans. of German patent 112, 449 [1899?].

DESCRIPTORS: *Wood, *Wood pulp, Material separation, Cellulose, Paper industry, Resins.

Schacht, F.
PROCESS FOR PREVENTION OF FOAM OR FROTH ESPECIALLY IN THE PAPER INDUSTRY. [1963] 2p
Order from OTS or SLA $1.10 63-18195

Trans. of French patent 793, 173 [1936].

DESCRIPTORS: *Paper industry, *Foams, *Foaming inhibitors, Oils, Organic solvents, Fatty acids.

MATHEMATICS

SOVIET RESEARCH IN DATA PROCESSING. 15 Aug 63, 263p. 95 refs. JPRS: 20660.
Order from OTS $4.00 63-31540

Trans. of mono. Primenenie Vychislitel'noi Tekhniki dlya Avtomatizatsii Proizvodstva (The Use of Computer Technology to Automate Industry) Moscow, 1961, p. 52-62, 458-482; Akademiya Nauk Uzbekskoi SSR [Tashkent]. Izvestiya. [Seriya Fiziko-Matematicheskikh Nauk] 1961, no. 6, p. 23-33; Izvestiya Vysshikh Uchebnykh Zavedenii. Fizika (USSR) 1961, no. 4, p. 12-16; Matematicheskii Sbornik (USSR) 1961, v. 55(97) no. 4, p. 449-472; #Prikladnaya Matematika i Mekhanika (USSR) 1962, v. 26, no. 1, p. 29-38, 62-79; Sibirskii Matematicheskii Zhurnal (USSR) 1961, v. 2, no. 5, p. 746-758, 767-788, 792-800; no. 6, p. 904-912.

DESCRIPTORS: *Data processing systems, *Scientific research, Calculus of variations, Control systems, Automation, Mathematical analysis, Linear systems, Synthesis, Differential equations, Integration, Numerical methods and procedures, Equations of motion, Bodies of revolution, Statistical processes, Probability, Operations research, Programming (Computers), Polynomials, Boundary value problems, Difference equations, Operators (Mathematics), Integral equations.

Contents:
Variational problems in the optimization of control processes, by V. A. Troitskii
Peculiarities occuring upon the introduction of a small parameter in investigating non-linear oscillations in automatic systems, by E. P. Popov
Synthesis of a linear system of automatic control, with restricted displacements of controlling devices, based on the criterion of minimal square deviation at the given instant, by K. Shtaidten
The principle of the extremum for a system of second-order differential equations, by V. Ya. Skorobogat'ko

Asymptotic behavior of solutions of a many-dimensional system of differential equations having a singular point of higher order, by A. A. Shestakov

A method for numerical integration of ordinary differential equations, by O. K. Daugavet

The numerical solution of integro-differential equations with a quasi-linear differential operator and the generalized volterra operator, by G. B. Linkovskii and V. F. Krapivin

Parameter dependence of the solutions of differential difference equations, by V. P. Rubanik

A boundary value problem and certain questions of the variation of its solutions, by V. P. Skripnik

A general solution of the problem of motion of a heavy solid body around a fixed point, by A. N. Filatov

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Application of computer techniques in determination of the dynamic characteristics of controlled processes during their normal operation, by V. V. Solodovnikov and A. S. Uskov

Sommerfeld's polynomial method, by S. A. Smolyanskii.

Grebenyuk, D. G.
EXTENSION OF THE GAUSSIAN QUADRATURE FORMULA TO THE CASE OF m VARIALBES (Obobshchenie Kvadraturnoi Formuly Gaussa na Sluchai m Peremennykh). [1963] 10p 2refs
Order from OTS or SLA $1.10 63-20074

Trans. of Akad[emiya] Nauk Uz[bekskoi] SSR [Tashkent]. Izvestiya. Seriya Fiziko-Matem[aticheskikh Nauk] 1958, no. 2, p. 69-76.

DESCRIPTORS: *Integrals, Integration, Polynomials, Real variables.

Karpelevich, F. I.
CHARACTERISTIC ROOTS OF MATRICES WITH NON-NEGATIVE ELEMENTS. [1963] 51p. 1 ref.
Order from OTS or SLA $5.60 63-16563

Trans. of Akad[emiya] Nauk SSSR. Izvestiya. Ser[iya] Matemat[icheskaya] 1951, v. 15, no. 4, p. 361-383.

DESCRIPTORS: *Matrix algebra, *Complex numbers, Convex sets, Number theory, Sequences, Geometry.

The range of distribution of the characteristic roots of matrices of the n-th order with non-negative elements and fixed maximum of the modulus of characteristic roots is determined. (Author)

Kotelyanskii, D. M.
ON SOME PROPERTIES OF MATRICES WITH POSITIVE ELEMENTS (O Nekotorykh Svoistvakh Matrits s Polozhitel'nymi Elementami), tr. by Z. D. Knowles. 6 June 63, 13p. 4 refs. NIH no. 6-7-63.
Order from OTS or SLA $1.60 63-23133

Trans. of Matematicheskii Sbornik (USSR) 1952, v. 31(73) no. 3, p. 497-506.

DESCRIPTORS: *Matrix algebra, Polynomials, Determinants, Complex numbers.

Krylov, I. A. and Chernous'ko, F. L.
ON A METHOD OF SUCCESSIVE APPROXIMATION FOR THE SOLUTION OF OPTIMAL CONTROL PROBLEMS. 1 Aug 63 [17p] 5refs FTD-TT-63-701.
Order from OTS orSLA $1.60 63-24025

Unedited rough draft trans. of Zhurnal Vychislitel'noi Matematiki i Matematicheskoi Fiziki (USSR) 1962, v. 2, no. 6, p. 1132-1139.
Another trans. is available from OTS $0.75 in 63-21110, JPRS-17589, 12 Feb 63 [27p].

DESCRIPTORS: *Control theory, Optimalization, *Numerical methods and procedures, Differential equations, Calculus of variations, Operations research, Numerical analysis, Boundary value problems.

A method of successive approximations, which is based on the maximal principle, is proposed for the determination of optimal control in problems with open right limit.

Sarkova, N. V.
THE APPROXIMATE SOLUTION, BY THE METHOD OF OSCILLATING FUNCTIONS, OF INTEGRO-DIFFERENTIAL EQUATIONS AND DIFFERENTIAL EQUATIONS WITH LAGGING ARGUMENT. [1963] [18p] 5refs
Order from OTS or SLA $1.60 63-20188

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Matematika (USSR) 1963, no. 1(32) p. 158-168.

DESCRIPTORS: *Numerical methods and procedures, *Functions, *Integral equations, Integration, *Differential equations, Time-lag theory, Numerical analysis, Errors.

A method is presented which extends the application of the method of oscillating functions to the solution of integro-differential equations with lagging argument (variable delay). In each case error bounds are derived. (Translator).

Sominskii, I. S.
THE METHOD OF MATHEMATICAL INDUCTION, tr. by H. Moss. 1961, 1v.
Order from PP

Trans. of mono. [Metod Matematicheskoi Induktsii, 5 ed., n.p., 1959] [Populyarnye Lektsii po Matematike, v. 1].

DESCRIPTORS: *Mathematics.

Valeev, K. G.
CERTAIN GASES OF THE INTEGRABILITY OF THE EQUATIONS OF MOTION OF THE MATERIAL POINT UNDER THE ACTION OF THE NEWTONIAN FORCE AND ADDITIONAL PERTURBATION FORCES. [1963] [10p] 3refs
Order from OTS or SLA $1.10 63-18712

Trans. of #Prikladnaya Matematika i Mekhanika (USSR) 1963, v. 27, no. 2, p. 211-217.

DESCRIPTORS: *Equations of motion, *Celestial mechanics, *Gravity, *Perturbation theory, Differential equations, Mathematical analysis, *Integration.

Certain special cases of the problem are discussed.

Vodicka, Vaclav.
A CLASS OF INHOMOGENEOUS BESSEL EQUATIONS. [1963] 6p 1ref
Order from SLA $1.10 63-20126

Trans. of Zeitschrift für Angewandte Mathematik und Physik (Switzerland) 1959, v. 10, p. 603-608.

DESCRIPTORS: *Bessel functions, Equations, Heat transfer, Numerical analysis, Mathematics, *Differential equations.

New particular solutions are given for certain types of nonhomogenecus Bessel equations. Previous considerations allow for considerable extension and their technical importance is illustrated by an example in heat conduction. (Author)

Yakubov, I. T.
AN ASYMPTOTIC EXPRESSION FOR THE GENERALIZED LAGUERRE POLYNOMIALS. [1963] [7]p. 7 refs.
Order from OTS or SLA $1.10 63-18371

Trans. of Izvestiya Vysshikh Uchebnykh Zavedenii. Matematika (USSR) 1963, no. 1(32) p. 169-171.

DESCRIPTORS: *Polynomials, Numerical analysis.

A new asymptotic expression is presented for the generalized Laguerre polynomials. The expression is derived by studying a particular solution of the Schrodinger equation for large values of the index. (Translator)

Computing Devices

Brailovskii, V. L.
ON THE METHOD FOR THE RECOGNITION OF OBJECTS, DESCRIBED BY SEVERAL PARAMETERS, AND ON THE POSSIBILITIES OF ITS APPLICATIONS. [1963] [21]p. 1 ref.
Order from OTS or SLA $2.60 63-18064

Trans. of #Avtomatika i Telemekhanika (USSR) 1962, v. 23, no. 12, p. 1643-1653.

DESCRIPTORS: *Cybernetics, *Pattern recognition, *Algorithms, Learning, Noise, *Digital computers.

An algorithm classifying objects (described by a rather small number of descrete parameters) into two groups is considered. Signs according to which the objects are classified are produced by the algorithm in the process of "learning". Some results of applying this algorithm for the solution of several problems of classification with the help of a digital computer are described. Possible applications of such an algorithm are stressed. (Author)

Rudnev, K.
COMPUTER TECHNOLOGY IN THE NATIONAL ECONOMY. 18 Sep 63, 8p JPRS: 21137.
Order from OTS $0.50 63-31784

Trans. from Izvestiya (USSR) 1963, 4 Sep, p. 3.

DESCRIPTORS: *Computers, *Economics, Research program administration.

Varshavskii, V. I.
FUNCTIONAL POSSIBILITIES AND THE SYNTHESIS OF THRESHOLD ELEMENTS. [1963] 9p. 4 refs.
Order from OTS or SLA $1.10 63-18068

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 139, no. 5, p. 1071-1074.

DESCRIPTORS: *Mathematical logic, *Computer logic, Functions, Synthesis, Input-output devices.

Varshavskii, V. I.
ON THE COMPLEXITY OF SCHEMES WITH A DEPTH TWO BUILT OF THRESHOLD ELEMENTS. [1963] 8p. 1 ref.
Order from OTS or SLA $1.10 63-18066

Trans. of Akademiya Nauk SSSR. Doklady, 1961, v. 139, no. 6, p. 1325-1328.

DESCRIPTORS: *Mathematical logic, *Computer logic, Functions, Input-output devices.

MECHANICS

SOVIET ABSTRACTS: MECHANICS, 1963, NO. 5, ABSTRACTS 5 A1-5V628. [1963] [54p]
Order from OTS or SLA $5.60 63-23986

Trans. of Soviet entries from Referativnyi Zhurnal. Mekhanika (USSR) 1963, no. 5.

DESCRIPTORS: *Abstracts, *Mechanics, *Fluid mechanics, Magnetohydrodynamics, Aerodynamics, Shock waves, Hydrodynamics, Viscosity, Liquids, Boundary layer, *Heat transfer, Diffusion, *Meteorology, Fluid flow, Gases, Porous materials, *Elasticity, *Plasticity, *Soil mechanics, Structural parts.

Chernyshev, G. N.
EFFECT OF CONCENTRATED FORCES AND MOMENTS ON A THIN ELASTIC SHELL OF ARBITRARY SHAPE. 13 Sep 63, 16p 9refs JPRS: 21084.
Order from OTS $0.50 63-31760

Trans. of #Prikladnaya Matematika i Mekhanika (USSR) 1963, v. 27, no. 1, p. 126-134.

DESCRIPTORS: *Elastic shells, *Stresses, Loading (Mechanics), *Moments, Load distribution, Equations, Mathematical analysis, Partial differential equations.

Medvedeva, N. S. and Shemyakin, E. I.
SHOCK LOAD WAVE IN AN UNDERGROUND EXPLOSION IN ROCKS, tr. by Sergey Shewchuck.
Mar 63 [21p] 12refs
Order from OTS or SLA $1.60 UCRL Trans-934(L)

Trans. of Zhurnal Prikladnoi Mekhaniki i Tekhnicheskoi Fiziki (USSR) 1961, no. 6, p. 78-87.

DESCRIPTORS: *Shock waves, *Mechanical waves, *Underground explosions, Rock (Geology), Explosion effects, Equations, Mathematical analysis, Plasticity.

The problem of propagation of shock load waves in rocks is considered, whose behavior during load is described by a nonlinear dependence of the pressures and deformations and by some condition of "plasticity". The derived integrals permit one to show the structure of formulas defining the attenuation of the amplitudes of pressure and particle velocity in pressure waves with underground explosions. (Author)

Slezinger, I. I.
TRANSVERSE BENDING OF RECTANGULAR PLATES FIXED IN AN ELASTIC SUPPORTING FRAME. [1963] [15]p. 6 refs. [DSIR] NLL M. 3888.
Order from OTS or SLA $1.60 63-19950

Trans. of Izvestiya V[ysshikh] U[chebnykh] Z[avedenii]. Stroit[el'stvo] i Arkhitektura (USSR) 1958 [v. 1] no. 1, p. 87-97.

DESCRIPTORS: *Metal plates, *Deformation, Stresses, *Elasticity, Supports, Mechanical properties, Equations, Numerical analysis.

Aerodynamics and Pneumatics

Belen'kii, S. Z.
THE WAVE RESISTANCE OF BODIES IN SUPERSONIC FLOW [O Volnovom Soprotivlenii Tel v Sverkhzvukovom Potoke]. [1963] 5p 4refs
Order from OTS or SLA $1.10 63-20148

Trans. of [Prikladnaya Matematika i Mekhanika] (USSR) 1944, v. 8 [no. 1] p. 84-87.
Another trans. is available from SLA as RT-3923, 9p.

DESCRIPTORS: *Supersonic flow, Supersonic characteristics, Geometric forms, Airfoils, Shock waves, Thermodynamics.

From thermodynamic laws, this article determines a relationship between the resistance of a body in a compressible gas and the increase of the entropy value in compression shocks generated due to flow of gas past the body. (Author)

Berthold.
RESEARCH ON THE DESIGN OF A CONTINUOUS-OPERATION WIND TUNNEL FOR SUBSONIC AND SUPERSONIC VELOCITIES WITH MAXIMUM POSSIBLE EFFICIENCY. [1963] [24p]
Order from SLA $2.60 63-20190

Trans. of Kochel Rept-66/41, 6 May 41.

DESCRIPTORS: *Wind tunnels, *Supersonic flow, Aerodynamics, *Subsonic flow, Nozzles, Diffusers, Test equipment, Design, Effectiveness, Supersonic wind tunnels.

Iroshnikov, R. S., Galkin, V. S., and Gusev, V. N.
CONCERNING AN ALMOST FREE-MOLECULAR FLOW OF RAREFIED GAS PAST BODIES; CONCERNING THE LIMITS OF APPLICANILITY OF A RELAXATION MODEL OF BOLTZMANN'S KINETIC EQUATION; INVESTIGATION OF A FLOW IN A DISCHARGE ARRANGEMENT. 20 June 63 [30]p. 12 refs. FTD-TT-63-509.
Order from OTS or SLA $2.60 63-23635

Unedited rough draft trans. of Inzhenernyi Zhurnal (USSR) 1961, v. 1, no. 3, p. 60-64, 153-156, 161-165.

DESCRIPTORS: *Superaerodynamics, Gas flow, Cylindrical bodies, *Kinetic theory, Models (Simulations), Relaxation time, *Shock waves, *Electrical discharges, Shock tubes.

Kosterin, S. I., Yushchenkova, N. I. and others.
INVESTIGATION OF THE INFLUENCE OF A RAREFIED SUPERSONIC FLOW ON READINGS OF IMPACT PRESSURE PROBES. [1963] 11p. 9 refs.
Order from OTS or SLA $1.60 63-18172

Trans. of Inzhenerno-Fizicheskii Zhurnal (USSR) 1962 [v. 5] no. 12, p. 16-22.
Another trans. is available from ICE in v. 3, no. 2, $15.00/year.

DESCRIPTORS: *Pitot tubes, Measurement, Pressure, Mach number, Viscosity, Nozzles, Attentuation, *Supersonic flow, Superaerodynamics.

The results of the investigation of the influence of a supersonic rarefied flow on the value of impact pressure, measured by a thin-walled impact pressure probe with a small outer angle of taper, for a transition region of the flow regime are given for a range of variation of the criteria of $0.2 \leq M/\sqrt{Re_d} \leq 2.00$, and $4.3 \leq M \leq 6.5$. (Author)

Hydrodynamics, Hydraulics, and Hydrostatics

Novikov, N. P.
HIGH-VELOCITY CUMULATIVE JETS. 15 Aug 63 [17p] (figs omitted) 16refs FTD-TT-63-566.
Order from OTS or SLA $1.60 63-24000

Unedited rough draft trans. of Zhurnal Prikladnoi Mekhaniki i Tekhnicheskoi Fiziki (USSR) 1962, no. 6, p. 22-28.

DESCRIPTORS: *Jets, *Explosion effects, Pipes, Metals, Velocity, Detonation waves, Compressive properties, Photographic analysis, Spectrographic analysis.

The obtaining of high-velocity cumulative jets is described, the structure of the jets is studied from slow-motion pictures and the state of the material in them is studied from the luminosity spectra of the process, a number of dependences of the velocity of the high-

velocity jet on various parameters are given, and, finally, an attempt is made to consider the high-velocity and main cumulative jets as the discharge of a highly compressed metal into a vacuum. (Author)

Ostroumov, G. A.
FREE CONVECTION UNDER INTERNAL PROBLEM CONDITIONS: EXCERPTS. [1963] 51p.
Order from ATS $39.85 ATS-16Q70R

Trans. of mono. [Svobodnaya Konvektsiya v Uslovyakh Vnutrennei Zadachi] Moscow/Leningrad, 1952, p. 1-79. A complete trans. of mono. is available from OTS or SLA $15.50 as 59-18023, NACA-TM-1407 [1959] 233p.

DESCRIPTORS: *Fluid flow, *Convection, Theory.

Selyaninov, M. G.
MEASURING THE INSTANTANEOUS RATES OF FLOW OF A LIQUID BY AN ELECTRO-THERMO-ANEMOMETER AND THE METHOD OF ELECTRO-MAGNETIC INDUCTION. 20 June 63 [13]p. 7 refs. FTD-TT-63-482.
Order from OTS or SLA $1.60 63-23637

Unedited rough draft trans. of mono. Novye Metody Izmerenii i Pribory dlya Gidravlicheskikh Issledovanni, Moscow, 1961, p. 49-55.

DESCRIPTORS: *Flowmeters, *Anemometers, *Fluid flow, Liquids, Electromagnetic properties, *Meters, Turbulence, *Measuring devices (Electrical and Electronic), Design, Inductance.

METALLURGY

ACTA METALLURGICA SINICA, 1959, VOL. 4, NOS. 3-4; 1960, VOL. 5, NO. 1: TABLE OF CONTENTS AND SELECTED ABSTRACTS, tr. by N. H. Ng. Chinese (Mainland) Science and Technology Journals. Jan 63 [21]p. Emmanuel Coll. Research Language Center Rept. No. Metallurgy-1; AD-407 707.
Order from OTS or SLA $2.60 63-19643

Trans. of table of contents and selected abstracts of Chin Shu Hsüeh Pao (Chinese People's Republic) 1959, v. 4, nos. 3-4; 1960, v. 5, no. 1.

DESCRIPTORS: *Abstracts, *Metallurgy.

RUSSIAN METALLURGY AND FUELS, 1962, NO. 3. Nov 62, 100p.
Order from Scientific Information Consultant, Ltd., 661 Finchley Road, London, N. W. 2 $68.00/year

Trans. (some abridged) of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Metallurgiya i Toplivo, 1962, no. 3, p. 3-26, 56-115. ##Abstracts are included of the articles not translated. ##Another trans. of p. 85-87 is available from STS STS $4.90 as STS-Z-6222, 1962, 3p.

DESCRIPTORS: *Metallurgy, *Fuels, USSR, Rolling mills, Steel, Desulfurization, Crystals, Solid state physics, Titanium, Plasticity, Deformation, Failure (Mechanics), Fatigue (Mechanics, Aluminum, Nickel, Creep, Tungsten alloys, Carbides, Cobalt alloys, Niobium, Cerium, Vanadium, Powder metallurgy, Sintering, Calcium alloys, Silicon alloys, Iron alloys.

Contents:
On the basic problems in rolling technology, by I. M. Pavlov (abridgement)
Cyclic strength of high-strength grades of steel, by I. A. Oding and S. E. Gurevich
Effect of steel deoxidation with silicon on desulphurization, by S. E. Volkov and A. M. Samarin
Homogenisation of crystals in binary systems by a 'self-feeding melt' method, by V. N. Romanenko and G. V. Nikitina
Contribution to the problem of reactions between components dissolved in ternary solid solutions, by V. M. Glazov and others
Effect of the degree of deformation on recrystallisation kinetics and grain size of rapidly heated titanium, by V. I. Ivanov (abridgement)
Some peculiarities of the mechanism of plastic deformation of austenitic steel and alloys during their high temperature thermomechanical treatment, by E. N. Sokolkov and others
Study of curves in fatigue-failure diagrams, by R. L. Kogan
X-ray investigation of solid solution breakdown in a aluminium alloys after quenching and deformation, by L. N. Rogel'berg and others
##Effect of aluminium and titanium on the linear growth velocity and recrystallisation centres in deformed nickel and nichrome, by E. E. Zasimchuk and others
Creep and structure of alloys in the titanium-oxygen-hydrogen and titanium-aluminium-hydrogen systems, by I. I. Korniloc and A. M. Yakimova
Effect of cooling rate in sintering and thermal treatment processes on the properties of hard tungsten carbide-cobalt alloys, by G. S. Kreimer and O. S. Safonova
Distribution of carbon and tungsten in Columbium during its zone refining, by A. I. Evstyukhin and others (abridgement)
Effect of cerium on the plasticity of vanadium, by E. M. Savitskii and others
Radiographic investigation of pseudoternary WC-TiC-TaC and psuedo-quaternary WC-TiC-TaC-NbC systems, by N. A. Vatolin and R. Kisling (abridgement)
Immiscibility in liquid station of alloys in calcium-silicon-iron system, by A. K. Golev and G. S. Belyaev.

RUSSIAN METALLURGY AND FUELS, 1962, NO. 4. Jan 63, 120p.
Order from Scientific Information Consultants Ltd., 661 Finchley Road, London, N. W. 2 $68.00/year

Trans. (some abridged) of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Metallurgiya i Toplivo, 1962, no. 4, p. 31-39, 44-50, 56-58, 62-69, 78-132, 137-142. Abstracts are included of the articles not translated in full.

DESCRIPTORS: *Metallurgy, *Fuels, *Steel, *Ores (Metal sources), *Salts, *Casting alloys, *Carbon, Heat resistant metals and alloys, *Nickel, *Alloys, *Metals, *Rhenium, Silicon, Manganese, Aluminium, Electrical conductance, Lithium, Cadmium, Titanium, Molybdenum, Zirconium.

Contents:
Deoxidation of steel with complex alloys of silicon, manganese and aluminium, by Kuoang An-min and others
Smelting of poly-metallic ores and concentrates by suspension in a stream of oxygen, by I. I. Penzimonzh and S. M. Kozhakhmetov.
Electrical conductivity of molten salts with a monovalent cation, by O. K. Sokolov
Relationship between shrinkage porosity in castings and the alloy position of the constitution diagram, by R. A. Bakhtvarov
Diffusion of carbon in cementite during graphitisation, by L. A. Kurochkina and others
Mechanical properties of high-temperature aluminium-lithium-cadmium alloys, by I. N. Fridlyander and others
Pecularities of nickel deformation at various temperatures and rates of extension, by M. G. Lozinskii and N. Z. Pertsovskii
Residual stresses in surface layers of diffusion-saturated alloys, by G. N. Dubin
Investigation of structure and properties of titanium-aluminium-molybdenum alloys, by Ko-chich-Ming and others
Creep and structure of titanium-chromium and titanium-molybdenum alloys containing hydrogen, by I. I. Kornilov and A. M. Yakimova
Structure and properties of the alloys of zirconium diboride with iron, cobalt and nickel, by V. F. Funke and S. I. Yudkovskii
Effect of oxygen on the mechanical and electrical properties of metallic rhenium, by E. M. Savitskii and G. E. Chuprikov.

DESCRIPTORS: Theses, *Nickel alloys, *Iron alloys, *Anisotropy, Rolling mills, Cold working, Heat treatment, Magnetic properties, Crystal structure.

The magnetic anisotropy of reversible Fe-Ni alloys was measured after cold-rolling as a function of the degree and direction of rolling and of heat treatment. The results are interpreted in terms of disorder affecting the unit cell of the $FeNi_3$ superstructure. The direction and relative magnitude of the anisotropy are calculated and compared with experiment. (Author)

SELF-LUBRICATING SINTER METAL. Aug 63.
Order from TTIS $2.70

Trans. of German patent 1,146,257, by Daimler-Benz AG, appl. 18 Aug 56, pub. 28 Mar 63.

DESCRIPTORS: *Powder alloys, Powder metallurgy, Lubrication.

Abramov, O. V. and Teumin, I. I.
ROLE OF INSOLUBLE IMPURITIES IN THE CRYSTALLIZATION OF METALS UNDER ULTRASOUND. Aug/Sep 63, 2400words
Order from HB $4.80 HB-6001

Trans. of #Fizika Met[allov] i Metalloved[enie] (USSR) 1963, v. 15, no. 5, p. 710-716.

DESCRIPTORS: *Ultrasonic radiation, *Liquid metals, *Crystallization, Impurities, Vibration.

Alekseev, V. I. and Shvartsman, L. A.
THERMODYNAMICS OF TUNGSTEN CARBIDES
Sep 63
Order from BISI £3 BISI-3321

Trans. of Akademiya Nauk SSSR. Otdelenie [Technicheskikh] Nauk. Izvestiya: Metallurgiya i Gornoe Delo, 1963, no. 1, p. 91-96.

DESCRIPTORS: *Carbides, *Tungsten compounds, Thermodynamics, Chemical bonds, Steel, Alloys.

Artamonov, A. Ya. and Shvedkov, E. L.
EFFECT OF MACHINING ON THE STRENGTH OF EXTRA HARD METALS. Aug/Sep 63, 1000words
Order from HB $2.80 HB-5996

Trans. of Poroshkovaya Metallurgiya (USSR) 1963, v. 3, no. 1, p. 79-82.

DESCRIPTORS: *Carbides, *Titanium compounds, *Chromium compounds, Machinery, Mechanical properties.

Baimakov, Yu. V.
PRODUCTION OF SODIUM-POTASSIUM ALLOYS BY ELECTROLYSIS OF FUSED CAUSTIC ALKALIES. [1963] 33p (figs omitted) 5refs
Order from OTS or SLA $3.60 63-18655

Trans. of Politekhn[icheskii] Inst[itut] Leningrad. [Trudy] (USSR) 1942, no. 1, p. 124-138.

DESCRIPTORS: Fused materials, *Alkalic metal alloys, *Potassium alloys, *Sodium alloys, Eutectics, Electrolysis, Production, Chemical compounds, Melting.

Balandin, G. F.
EFFECT OF VIBRATIONS ON THE CRYSTALLIZATION OF CASTINGS AND INGOTS, AND UNDERLYING MECHANISM. Aug/Sep 63, 1800words
Order from HB $3.90 HB-6004

Trans. of #Fizika Metallov i Metallovedenie (USSR) 1963, v. 15, no. 5, p. 673-677.

DESCRIPTORS: *Castings, Crystallization, *Vibration, Impurities.

Bereczky, Endre.
THE CHEMISTRY OF FURNACE SLAGS (A Kohosalakok Kemiaja). [1963] [24p] (foreign text included).
Order from SLA $2.60 63-18614

Trans. of Epitöanyag (Hungary) 1952 [v. 4] no. 3/4, p. 58-63.

DESCRIPTORS: *Slags, Furnaces, Calcium compounds, Silicates, Chemical equilibrium, Cements, Crystal structure, Iron alloys, Castings, Smelting, Chemical reactions.

Bibikova, V. I., Oleinikova, K. V. and others.
BEHAVIOR OF RHENIUM IN MOLYBDENITE CONCENTRATES. 28 June 63, 12p. JPRS: 19929.
Order from OTS $0.50 63-31154

Trans. of mono. Renii: Trudy [Vsesoyuznogo] Soveshchanii [po Problems Reniya, 26-27 May 58] (Rhenium: Conference Proceedings) Moscow, 1961, p. 37-41.

DESCRIPTORS: *Rhenium, Recovery, Chemical reactions, *Rhenium alloys, Copper alloys, *Rhenium compounds, *Molybdenum compounds, *Sulfides, Vaporization, Furnaces, Test methods, *Conferences, Ores (Metal sources).

An increased content of rhenium in many molybdenite concentrates of copper-molybdenum deposits in the regions of Armenia, Kazakhstan and Uzbekistan has been established. An examination of the products of the Kadzharanskiy concentration factory has shown that the distribution of rhenium among copper and molybdenite concentrates occurs in the ration of 1 : 5. For complete volatilization of rhenium during roasting of molybdenite concentrates excess air is necessary. The most complete volatilization of rhenium is effected in effervescent foil furnaces. For the recovery of rhenium from the gaseous stage a wet Cottrell filter or a velocity foam bubbler can be recommended. (Author)

Bokshtein, S. Z., Kishkin, S. T. and others.
THERMOMECHANICAL TREATMENT OF CHROMIUM-NICKEL-MANGANESE AUSTENITIC STEEL. [Aug 63] 7refs
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 15-21.

DESCRIPTORS: *Steel, Austenite, *Manganese alloys, *Nickel alloys, *Chromium alloys, Microstructure, Grain structures (Metallurgy), Plasticity, Deformation, Recrystallization, Quenching (Cooling), Diffusion, Heat treatment.

The effect is studied of thermomechanical treatment (plastic deformation above the recrystallization temperature followed by quenching) on the microstructure and high temperature strength of an austenitic Cr-Ni-Mn steel. The ageing of the treated steel, and the grain boundary diffusion were also studied. (SIC abstract)

Braun, M. P.
EFFECT OF ADDITIONAL ALLOYING ON THE STRENGTH AND DUCTILITY OF CHROMIUM-MANGANESE-SILICON STEEL. [Aug 63] 8 refs.
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 107-112.

DESCRIPTORS: *Steel, Silicon alloys, Manganese alloys, Chromium alloys, Ductility, Copper alloys, Molybdenum alloys, Niobium alloys, Titanium alloys, Aluminum alloys, Mechanical properties.

The mechanism of the action of the alloying elements in the presence of one another on the strength and other properties of steel is examined, the additional alloying elements being Cu, Cu-Mo, Ni-Mo-Ti, Ni-Mo-Cu-Ti, and Ti-Al. (SIC abstract)

Brotzmann, K.
PROBLEMS AND RESULTS OF VACUUM TREATMENT OF PLAIN CARBON STEELS. Aug/Sep 63, 2600words
Order from HB $6.50 HB-5849

Trans. of Schweizer Archiv [für Angewandte Wissenschaft und Technik] 1962, v. 28, no. 11, p. 473-476.

DESCRIPTORS: *Steel, Carbon, Vacuum apparatus, Manufacturing methods.

Brüggemann, T. and Kuntz, E.
CONTRIBUTION TO THE ELIMINATION OF EMBRITTLEMENT IN TRANSFORMER SHEET. Sep 63
Order from BISI £3 5s BISI-3386

Trans. of Neue Hütte (East Germany) 1962, v. 7 [no. 7] p. 411-416.

DESCRIPTORS: Silicon alloys, Iron alloys, *Brittleness *Pickling compositions, Sheets, Transformers.

Bunge, Hans-Joachim and Müller, Horst Guido.
ON THE MAGNETIC ROLLING ANISOTROPY OF CUBIC FACE-CENTERED IRON-NICKEL ALLOYS. [Thesis Halle U. (East Germany) 1955. [1963] 15p 15 15refs
Order from SLA $1.60 63-20327

Trans. of Zeitschrift für Metallkunde (West Germany) 1957, v. 48, p. 26-32.

Chekmarev, A. P., Klimenko, P. A., and Vinogradov, G. A.
INVESTIGATION OF THE SPECIFIC PRESSURE, SPECIFIC FRICTION AND THE COEFFICIENT OF FRICTION IN THE ROLLING OF METAL POWDERS. Aug/Sep 63, 2100words
Order from HB $4.20 HB-5997

Trans. of Poroshkovaya Metallurgiva (USSR) 1963, v. 3, no. 2, p. 26-30.

DESCRIPTORS: *Powder metals, Mechanical working, Material forming, Friction, Differential equations.

Dzugutov, M. Ya. and Vakhtanov, B. F.
HOW TO AVOID INTERNAL TRANSVERSE TEARS DURING THE FORGING OF INGOTS OF HIGH STEELS AND ALLOYS. June/July 63, 1500 words.
Order from HB $4.20 HB-5915

Trans. of Kuznechno-Shtampov[ochnoe] Proizvodstvo (USSR) 1963 [v. 5] no. 2, p. 7-8.

DESCRIPTORS: Alloys, *Steel, Forging, *Castings, Nickel alloys, Forge presses, Heating, Stresses.

Erokhin, A. A. and Il'in, N. P.
DISTRIBUTION OF ELEMENTS IN A DROP FORMED ON THE ELECTRODE TIP DURING ARC WELDING. [Aug 63].
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 81-83.

DESCRIPTORS: *Arc welding, Electrodes, Drops, Iron, Nickel, Manganese, Chromium, *Wire, Iron compounds, Oxides, Sodium compounds, Silicates, Manganese alloys, Chromium alloys, *Metal coatings.

The distribution of iron, nickel, manganese and chromium has been studied on the longitudinal (axial) sections of the drop formed on the electrode, using high-alloy wire with coatings of iron oxide-sodium silicate, ferromanganese, or ferrochromium. (SIC abstract)

Evdokomov, V. I. and Morozov, I. S.
THE USE OF CHLORINE IN TIN METALLURGY (THE PHYSICOCHEMICAL PRINCIPLES OF LOW-TEMPERATURE CHLORINATION). [1963] 5p.
Order from ATS $7.75 ATS-71Q70R

Trans. of Akademiya Nauk SSSR. Vestnik, 1961, v. 31, no. 2, p. 44-47.
Another trans. is available from OTS or SLA $14.50 in 61-27716, JPRS-9886, 15 Aug 61 [215]p.

DESCRIPTORS: *Chlorine, *Tin, *Metallurgy, Chemical analysis, Low temperature research, *Chlorination.

Grigorovich, V. K.
COMPOSITION DIAGRAMS AS A BASIS OF THE THEORY OF HEAT RESISTANCE OF ALLOYS. [Aug 63] 21refs
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 92-97.

DESCRIPTORS: *Heat resistant metals and alloys, Deformation, Theory, Thermodynamics.

The resistance-to-deformation of alloys at high temperatures is discussed in terms of the equilibrium diagrams, for various types of alloy system. (SIC abstract)

Haferkamp, H.
PRACTICAL EXPERIENCE WITH 14 MoV. 63, HIGH TEMPERATURE STEEL IN THE MANNHEIMER STEAM POWER STATION. Sep 63
Order from BISI £6 5s BISI-3352

Trans. of Vereinigung der Grosskesselbesitzer. Mitteilungen (West Germany) 1963, no. 84, p. 186-194.

DESCRIPTORS: *Steel, Steam power plants, *Molybdenum alloys, *Vanadium alloys.

Haucke, M., Clees, H., Kopineck, H-J., and Ottmar, H.
USE OF PULVERIZED LIME IN THE ELECTRIC STEEL PLANT PNEUMATIC TRNASPORT AS A CHARGING METHOD. Sep 63
Order from BISI £5 10s BISI-3354

Trans. of Stahl und Eisen (West Germany) 1963, v. 83 [no. 8] p. 441-449.

DESCRIPTORS: *Steel, Electric furnaces, Calcium compounds, Oxides, Powders, Pneumatic servo-mechanisms.

Heuer, A., Tallmann, H., and Becker, O.
DEVELOPMENT AND DESIGN OF A HOT BLAST STOVE WITH COMBUSTION CHAMBER OUTSIDE OF THE CHECKERWORK. Sep 63
Order from BISI £4 15s BISI-3326

Trans. of Stahl und Eisen (West Germany) 1963, v. 83 [no. 11] p. 669-675.

DESCRIPTORS: *Combustion chambers, *Heaters, Blast furnaces, Design, Brick.

Hilber, H.
INFERENCES FROM THE STABILITY MEASUREMENTS ON ROTARY KILN SHELLS. [1963] [14]p. (figs. omitted).
Order from SLA $1.60 63-18393

Trans. of Zement-Kalk-Gips (West Germanv) 1961 [v. 14] no. 8, p. 339-346.

DESCRIPTORS: *Rotary furnaces, Structural shells, Stability, Measurement, Deformation, Stresses, Design, Sintering.

Ivanov, L. I., Matveeva, M. P. and others.
ON THE SELF-DIFFUSION OF CHROMIUM. [Aug 63] 14 refs.
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 104-106.

DESCRIPTORS: *Chromium, *Radioactivity, Radioactive isotopes, Annealing, *Diffusion.

The self-diffusion of chromium was examined on specimens prepared from electrolytic chromium (99.96% purity). A graph is given showing the results obtained by determination of the intensity of radioisotope radiation at different distances from the surface of a specimen on which Cr^{51} had been deposited, followed by annealing at 1200° C. (SIC abstract)

Kadinov, E. I., Litvinova, T. I., and Khitrik, S. I.
PHASE COMPOSITION OF SLAGS IN THE ELECTRIC MELTING OF STAINLESS STEELS. Aug/Sep 63, 3800words
Order from HB $8.50 HB-5941

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962, no. 11, p. 61-69.

DESCRIPTORS: *Stainless steel, Electric furnaces, Melting, *Slags, Chromium compounds, Oxides, Deoxidation.

Karyazin, I. A.
CONFERENCE ON THE MANUFACTURE OF TITANIUM SLAGS. [Aug 63].
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 176.

DESCRIPTORS: *Slags, *Titanium, Conferences, Manufacturing methods, Iron alloys, Titanium alloys, Ores (Metal sources), Recovery.

The conference considered methods of recovering titanium in the slag from ferrotitanium ores and ilmenite. The titles of the papers are given, and a very brief account of the discussion. (SIC abstract)

Kirschning, H[ans] J[oachim, Hombeck, Friedrich, Schenck, Hermann, and Carius, Carl].
EFFECT OF CERIUM ON THE PROPERTIES OF A CHROME-NICKEL STAINLESS STEEL. Aug/Sep 63, 5900words
Order from HB $14.50 HB-5960

Trans. of Archiv [für das] Eisenhüttenwesen (West Germany) 1963, v. 34, no. 4, p. 269-277.

DESCRIPTORS: *Stainless steel, *Nickel alloys, *Chromium alloys, *Cerium alloys, Mechanical properties, Corrosion resistant alloys.

Kislyi, P. S. and others.
PHYSICAL PROPERTIES OF CHROMIUM BORIDES. June/July 63, 1300 words.
Order from HB $3.50 HB-5975

Trans. of Poroshkovaya Metallurgiya (USSR) 1962, v. 2, no. 6, p. 50-53.

DESCRIPTORS: *Borides, *Chromium compounds, *Powders, Resistance (Electrical), Thermal conductivity, Melting, Hardness, Metals, Chemical bonds.

Kohlgrüber, J.
INSTALLATIONS FOR GALVANISING STRIPS, SHEET METAL, PIPES AND FITTINGS. Sep 63
Order from BISI £ 4 15s BISI-3387

Trans. of Bänder, Bleche, Rohre (West Germany) 1961 [no. 10] p. 500-507.

DESCRIPTORS: *Sheets, *Metal plates, *Pipes, *Fittings, Installation, Zinc, Metal coatings.

Kopyrin, I. A. and others.
THE INVESTIGATION OF GAS FLOW IN THE BLAST FURNACE WITH THE USE OF HELIUM. Aug/Sep 63, 4900words
Order from HB $11.90 HB-5879

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962, no. 12, p. 29-40.

DESCRIPTORS: *Helium, Blast furnaces, *Gas flow, Mass spectroscopy, Spectrum analyzers, Fluidized solids.

Korol'kov, A. M. and Shashkov, D. P.
ELECTRICAL RESISTIVITY OF SOME ALLOYS IN THE LIQUID STATE. [Aug 63].
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 84-88.

DESCRIPTORS: *Alloys, *Resistance (Electrical), *Electrical conductance, *Liquid metals, Solids, Melting, Thermodynamics, Transition temperature.

The electrical conductivity of a number of binary alloys was measured over a temperature range covering the fully solid and fully liquid states, and the experimental results were correlated with the equilibrium diagrams of the systems concerned. The systems studied included those with little or no mutual solubility and those with considerable solubility. Special attention was paid to the sudden rise in conductivity during melting. (SIC abstract)

Levin, E. S., Kurochkin, K. T., and Umrikhin, P. V.
KINETICS OF HYDROGEN REMOVAL IN THE VACUUM TREATMENT OF LIQUID STEEL. Aug/Sep 63, 3200 words
Order from HB $8.50 HB-6013

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1963 [v. 6] no. 6, p. 58-67.

DESCRIPTORS: *Steel, *Liquid metals, Dynamics, *Hydrogen, Degasification, Vacuum apparatus.

Livshits, B. G. and Osvenskii, V. B.
INVESTIGATION OF STRUCTURAL TRANSFORMATIONS IN NICKEL-CHROMIUM-NIOBIUM ALLOYS. [Aug 63].
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 139-146.

DESCRIPTORS: *Niobium alloys, *Chromium alloys, *Nickel alloys, Transformations, Aging (Materials), Electrical conductance, Crystal lattices, Crystal structure.

The purpose of the present investigation was to examine certain peculiarities during ageing in Ni-Cr-Nb alloys. The experimental results and their evaluation are given, phase changes being studied by changes in electrical conductivity, and in lattice constants. (SIC abstract

Loginov, V. I.
INTENSIFICATION OF THE PROCESSES IN THE BLAST-FURNACE HEARTH. Aug/Sep 63, 2700words
Order from HB $7.80 HB-5878

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962, no. 8, p. 21-28.

DESCRIPTORS: *Blast furnaces, Oxygen, Injection, Open hearth furnaces, Design, Slags.

Luk'yanov, P. M.
CONFÉRENCE SUR L'UTILISATION D'ENSEMBLE DES RÉSIDUS DE GRILLAGE DES PYRITES (Conference on the Efficient Use of the Residues of Pyrite Roasting). 7p FR-955.
Order from OTS, ETC or CNRS $0.80 62-26887

Trans. in French of Vsesoyuznoe Khimicheskoe Obshchestvo. Zhurnal (USSR) 1960, v. 5, no. 3, p. 339-341.

DESCRIPTORS: *Pyrites, Combustion, Transformations, *Wastes (Industrial), *Conferences.

Machu, W.
ELECTROPLATING AND ULTRASOUND. June/July 63, 800 words.
Order from HB $2.20 HB-5993

Trans. of Stahl und Eisen (West Germany) 1957, v. 77, no. 20, p. 1376.

DESCRIPTORS: *Electroplating, *Ultrasonic radiation.

Maekawa, Sh. and others.
METALLOGRAPHIC ANALYSIS OF THE NITRIDES OF ALUMINUM, TITANIUM AND ZIRCONIUM IN LOW-CARBON STEEL. Aug/Sep 63, 1200words
Order from HB $4.20 HB-6051

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 634-636.

DESCRIPTORS: *Steel, Carbon, *Nitrides, *Zirconium alloys, *Titanium alloys, Aluminum alloys, *Metallography.

Malyi, Sergei Aleksandrovich.
SOME INFORMATION ON THE HEATING OF METAL [AND] OVER-ALL TECHNICAL AND ECONOMICAL APPROACH IN THE SELECTION OF AN OPTIMUM COURSE OF AUTOMATION. 19 Aug 63, 24p. 29 refs. JPRS: 20698.
Order from OTS $0.75 63-31564

Trans. of mono. Avtomatizatsiya Metodicheskikh Pechei (Automation of Continuous Furnaces) Moscow, 1962, chaps. 3-4, p. 18-38.

DESCRIPTORS: *Furnaces, *Automation, Metals, Heating, Scheduling, *Economics.

Malysheva, T. Ya. and Rakcheev, A. D.
COMPOSITION OF THE ORE PART OF SINTERS FROM MAGNETITES. Aug/Sep 63, 1900words
Order from HB $4.75 HB-6045

Trans. of Akad[emiya] Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvest[iya]: Met[allurgiya i] Gorn[oe] Delo, 1963, no. 2, p. 13-16.

DESCRIPTORS: *Ores (Metal sources), *Magnetite, Blast furnaces, *Sinters.

Matsuoko, Z. and others.
MANUFACTURING TRIALS ON 20/30% CHROME-NICKEL STEEL TUBES AND THEIR PROPERTIES. Aug/Sep 63, 1300words
Order from HB $4.55 HB-6056

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 11, p. 1383-1385.

DESCRIPTORS: *Steel tubing, Chromium alloys, Nickel alloys, Manufacturing methods, Refineries, Corrosion inhibition, Mechanical properties.

Michard, J.
STAGED THERMAL BALANCE [Bilan Thermique et Echange de Chaleur]. Sep 63.
Order from BISI £5 15s BISI-3280, Pt. 5

Trans. of mono. [Étude du Haut Fourneau] (Study of the Blast Furnace) [Paris] 1959 [Cahier du Cessid] pt. 5, p. 39-55.
Another trans. is available from SLA $3.60 as 63-10489 [1963] [32p].

DESCRIPTORS: *Blast furnaces, Thermodynamics,

Ogryzkin, E. M.
INTERACTION BETWEEN OXYGEN JET AND LIQUID PIG IRON IN THE OXYGEN TOP BLOWING (OF STEEL). Aug/Sep 63, 1900words
Order from HB $4.50 HB-6011

Trans. of Akad[emiya] Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvest[iya]: Met[allurgiya i] Gorn[oe] Delo, 1963, no. 2, p. 17-20.

DESCRIPTORS: *Oxygen, Absorption, Injection, *Liquid metals, *Iron alloys, Castings, Steel, Waste gases.

Petracchi, Gernando.
INTERPRETATION OF THE PROCESS OF CORROSION BY CAVITATION. [1963] [17p] 17refs
Order from SLA $1.60 63-20153

Trans. of la Metallurgia Italiana, 1949 [v. 41] no. 1, p. 1-6.
Another trans. is available from SLA as 56-02622, 13p.

DESCRIPTORS: *Cavitation, *Corrosion, *Cathodic protection, Metals, Stresses, Electrochemistry.

Having examined the principal views formulated to explain the phenomena of corrosion by cavitation and the concepts on which the testing apparatus employed by various investigators is based, the author sets forth his point of view, according to which the underlying cause of corrosion by cavitation is attributable as a specific cause, to the fact that the corrosive effects of local micropyles are produced or intensified by mechanical stresses. On the basis of experiments carried out on various metals, in support of that hypothesis, the author demonstrates that the effect of extremely weak currents exercising cathodic protection or anodic corrosion is actually dominant in corrosion by cavitation (and in resistance to fatigue and corrosion combined. (Author)

Pluchery, M.
SEARCH FOR AN ABSOLUTE METHOD OF ANALYSIS BY X-RAY FLUORESCENT APPLICABLE TO THIN FILMS OF IRON-NICKEL OBTAINED BY EVAPORATION IN A VACUUM. Sep 63
Order from BISI £3 BISI-3346

Trans. of Spectrochimica Acta (Gt. Brit.) 1963, v. 19 [no. 2] p. 533-540.

DESCRIPTORS: Vacuum apparatus, Evaporation, *Nickel alloys, *Iron alloys, Thin films, Metal films, X-rays, Fluorescence.

Potvin, Roger and Farnham, G. S.
PRODUCING ZIRCONIUM AND TITANIUM IN GERMANY. [1963] 1p
Order from SLA $1.10 63-16804

Partial trans. (extract) of Can[adian] Mining [and] Met[allurgical] Bull[etin] 1946 [v. 39] no. 414, p. 516-523.

DESCRIPTORS: *Zirconium alloys, Powders, *Titanium compounds, Oxides, Production.

Pozdynyak, N. Z.
ALL-UNION SEMINAR ON ACTIVATED SINTERING OF POWDERS. [Aug 63].
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 174-175.

DESCRIPTORS: *Powder metallurgy, Cermets, *Conferences, *Sintering.

Report of a Seminar held in Moscow on November 13-14, 1961. It was organized by the Theoretical Section of the Powder Metallurgy Coordination Council, the Baykov Institute of Metallurgy and the Institute of Metalloceramics and Special Alloys, AS UkrSSR. The titles of the 16 papers presented are given, with brief notes on their contents. (SIC abstract)

Rekov, A. I. and Samsonov, G. V.
CARBOTHERMAL METHOD OF PRODUCING BORON CARBIDE IN RESISTANCE FURNACES. [1963] 14p. (figs. omitted) 13 refs.
Order from OTS or SLA $1.60 63-18486

Trans. of Poroshkovaya Metallurgiya (USSR) 1961, [v. 1] no. 4, p. 80-[85].

DESCRIPTORS: Furnaces, *Carbides, *Boron compounds, Production, Fused materials, Reduction, Anjydrides, Boric acids.

Comparison of the methods of boron carbide production by arc fusion and reduction in coreless furnaces was conducted, which indicated that the coreless method of boron carbide production is technologically and economically preeminent. The technology of obtaining boron carbide by carbo-thermal reduction of boric anhydride in coreless furnaces is described. (Author)

Rokhlin, L. L.
SOLUBILITY OF NEODYMIUM AND CERIUM IN SOLID STATE MAGNESIUM. [Aug 63] 3p.
Order from SIC $8.00

Abridged trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 126-130.

DESCRIPTORS: *Neodymium, *Cerium, Solubility, *Magnesium, Resistance (Electrical), Chemical equilibrium.

The solid solubility of neodymium and cerium in magnesium was determined by electrical resistivity methods. The experimental results obtained are shown in graphs and in a table, and equilibrium diagrams for 0-6% Nd and 0-4% Ce are given. (SIC abstract)

Rudneva, A. V. and Smoktin, V. V.
THE CHANGES IN THE PHASE COMPOSITION OF BASIC OXYGEN FURNACE SLAGS DURING THE BLOW. Aug/Sep 63, 3200words
Order from HB $6.40 HB-6000

Trans. of Akad[emiya] Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvest[iya]: Met[allurgiya i] Gorn[oe] Delo, 1963, no. 3, p. 58-66.

DESCRIPTORS: *Slags, Ores (Metal sources), Steel, Coolants, Furnaces, Oxygen, Phase studies, Control.

Rummel, Kurt.
THE CALCULATION OF THE HEAT ACCUMULATOR. [1963] 21p (figs omitted) 19refs
Order from SLA $2.60 63-20252

Trans. of Archiv für das Eisenhüttenwesen (Germany) 1931, v. 4, no. 8, p. 367-374 (Verein Deutscher Eisenhüttenleute (Germany). Bericht-147).

DESCRIPTORS: *Furnaces, *Heaters, Heat exchangers, Partial differential equations, Heat transfer, Iron industry, Steel industry.

Samsonov, G. V., Strashinskaya, L. V., and Shiller, E. A.
INTERACTION OF METAL CARBIDES, NITRIDES AND BORIDES IN CONTACT WITH REFRACTORY METALS AT HIGH TEMPERATURES. Aug/Sep 63, 4800words
Order from HB $9.80 HB-6030

Trans. of Akad[emiya] Nauk SSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvest[iya]: Metallurgiyai] Topl[ivo] 1962, no. 5, p. 167-180.
Another trans. is available from SIC in Russian Metallurgy and Fuels, 1962, no. 5, $15.00.

DESCRIPTORS: *Carbides, *Nitrides, *Borides, *Heat resistant metals and alloys, Microstructure, Chemical reactions, High temperature research, Niobium, Tantabum, Molybdenum, Tungsten.

Savitskii, E. M., Baron, V. V., and Ivanová, K. N.
MELTING DIAGRAM AND SOME PROPERTIES OF NIOBIUM-MOLYBDENUM-TUNGSTEN ALLOYS [Diagramma Plavkost i Nekotorye Svoistva Splavov Sistemy Niobii-Molibden-Vol'fram]. [Aug 63] 15 refs.
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 119-125.
Another trans. is available from OTS or SLA $1.60 as AEC-tr-5576, JPRS-R-1078-N [1963] [15]p.

DESCRIPTORS: *Tungsten alloys, *Molybdenum alloys, *Niobium alloys, Melting, Microanalysis, Hardness, Ductility, Oxidation, Resistance, *Heat resistant metals and alloys.

The ternary Nb-Mo-W system was studied by means of microscopical examination, thermal analysis, and X-ray analysis, and the hardness, ductility, and resistance to oxidation, at high temperatures were determined. (SIC abstract)

Savitskii, E. M., Baron, V. V., and T'ao, Tsu-ts'ung.
EFFECT OF RARE EARTH METALS ON THE DUCTILITY OF CAST MOLYBDENUM. [Aug 63] 7refs
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 156-159.
Another trans. is available from OTS or SLA $1.10 as 63-10108 [1962] 4p.

DESCRIPTORS: *Rare earth elements, *Plasticity, *Molybdenum, Mechanical properties, Microstructure, *Ductility, Casting.

A systematic study was made of the effect of the individual rare earth metals on the ductility of cast molybdenum. The experimental method used and the results obtained are given. (SIC abstract)

Schiele, C. and Sachs, T. D.
SUBMICROSCOPIC STRUCTURE OF METAL FILMS ELECTRO-DEPOSITED UNDER PULSED ULTRA-SOUND. Aug/Sep 63, 2600 words.
Order from HB $6.20 HB-5988

Trans. of Metalloberfläche (West Germany) 1961, v. 15, no. 6, p. 165-168.

DESCRIPTORS: *Metal films, *Electrodeposition, Microstructure, *Ultrasonic radiation, Pulse generators, Pressure, Microphotography, Electrolytes, Cyanides.

Schoendoerffer, J.
DEVELOPMENT OF PROBLEMS OF BLAST FURNACE REFRACTORY PRODUCTS SINCE 1959. Sep 63
Order from BISI £5 15s BISI-3375

Trans. of Revue de Métallurgie (France) 1963, v. 60 [no. 2] p. 127-140.

DESCRIPTORS: *Blast furnaces, *Refractory materials, Carbon compounds, Monoxides, Corrosion, Shafts, *Combustion chamber liners.

Shchedrin, V. M.
CHEMICAL EQUILIBRIUM BETWEEN PIG IRON AND BLAST-FURNACE SLAG UNDER VARIABLE GAS PRESSURES. [Aug 63].
Order from SIC $15.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 23-35.

DESCRIPTORS: *Slags, Blast furnaces, *Iron alloys, *Castings, Chemical equilibrium, Pressure.

Experimental work is described on the effect of temperature and CO partical pressure on the metal-slag equilibrium in a blast-furnace. (SIC abstract)

Sokolov, O. K.
FORMATION OF COMPOUNDS IN BINARY SULPHIDE SYSTEMS. [Aug 63].
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 54-55.

DESCRIPTORS: *Sulfur compounds, *Sulfides, Metals, Crystal lattices, Ions, Electrolysis.

A method is suggested for assessing the probability that two given metal sulphides will form compounds, the probability depending on the relationship between the anion-cation distance in the crystal lattices of the individual sulphides. Available data on anion-cation distances confirm the method. (SIC abstract)

Stebakov, E. S. and Tarutin, V. Ya.
DEFECTS OF PRESS CASTINGS AND METHODS FOR THEIR PREVENTION. 22 July 63 [29]p.
FTD-TT-63-713.
Order from OTS $0.75 63-11703

Unedited rough draft trans. of mono. Lit'e Vyzhimaniem [Compression Casting] Moscow, 1962, chap 8, p. 96-110.

DESCRIPTORS: *Material forming, *Casting, Castings, Deformation, Fracture (Mechanics).

Among the basic defects found in large area thin wall castings made by the press casting method are included the following: (1) heavy walls, (2) waviness, (3) dynamic pressure cracks, (4) blowholes, and (5) shrinkage cracks. A brief description of these defects is given; also the basic measures for their prevention are shown.

Sviderskaya, Z. A. and Turkina, N. I.
PHASE SOFTENING IN ALUMINIUM-COPPER-LITHIUM ALLOYS. [Aug 63] 4p.
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 151-155.

DESCRIPTORS: *Lithium alloys, *Copper alloys, *Aluminum alloys, Phase studies, Intermetallic compounds, Mechanical properties.

The strength of Al-Cu-Li alloys at temperatures up to 300°C was determined and compared with that of Duralumin type alloys. The determinations were made on the individual phases and intermetallic compounds as well as on the alloys themselves. (SIC abstract)

Trubitsyn, N. A.
A NEW METHOD FOR THE DETERMINATION OF LINEAR CONTRACTION, STRESS, AND THE RESISTANCE OF ALLOYS TO HOT TEARING, tr. by R. C. Murray. Paper from All-Union Conference on the Continuous Casting of Steel (no. 1) [17-19] Oct 55. Aug 57 [10]p. 7 refs. [BISI] Trans. 610; [Trans.] no. 4498; [DSIR] NLL M. 4141.
Order from OTS or SLA $1.10 62-24148

Trans. of mono. [Nepreryvnaya Razlivka Stali (The Continuous Casting of Steel)] Moscow, 1956, p. 261-266.

DESCRIPTORS: *Stresses, *Fracture (Mechanics), Contraction, *Alloys, *Castings, Mechanical properties, Measurement, *Measuring devices (Electrical and Electronic), Steel.

An apparatus for measuring the linear shrinkage, stresses, and hot tearing resistance of alloy castings is described. The apparatus consists of a flask with the device for fixing the plate with the transducers and the automatically recording electronic potentiometer. The operation of the instrument is based on a change in linear shrinkage or stress formed during the cooling of the horizontal casting that is converted into a proportional change of potential difference. The resistance of an electrical conductor is proportional to its length; by connecting the linear displacement due to shrinkage with a change in the length and cross-section of a wire transducer and measuring its ohmic resistance, a quantity proportional to the displacement is obtained. The preliminary experimental data collected indicate that the apparatus will be an aid in the working out of specific measures for dealing with hot tearing.

Tsujihata, K., Miyagawa, S., and Sawada, Y.
AUTOMATIC CONTROL SYSTEM OF A DWIGHT-LLOYD SINTERING MACHINE AND RECENT TRENDS ABROAD. June/July 63, 4100 words.
Order from HB $14.50 HB-5278

Trans. of Tetsu to Hagane (Japan) 1961, v. 47, no. 7, p. 891-896.

DESCRIPTORS: Machines, *Sintering, Control systems, Automatic, Japan.

Vigdorovich, V. N. and Rozin, K. M.
ON PROCEDURES FOR DETERMINING THE EFFECTIVE DISTRIBUTION COEFFICIENTS DURING ZONE REFINING. [Aug 63] 4refs
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 63-65.

DESCRIPTORS: *Zone melting, *Aluminum, Impurities, Test equipment.

A method is described for determination of the effective coefficient of distribution using the end of a test bar in which the concentration of impurities is highest. Data are given for the zone-refining of aluminium, as determined by spectroscopic analysis. (SIC abstract)

Vojinovic, R.
THE APPLICATION OF RADIOISOTOPES IN METALLURGY. 26 Aug 63, 3p. JPRS: 20805.
Order from OTS $0.50 63-31622

Trans. of Privredni Pregled (Yugoslavia) 1963 [v. 13] 25 May, p. 12.

DESCRIPTORS: *Metallurgy, *Radioactive isotopes, Tracer studies, Radioactivation analysis, Instrumentation, Metals, Measurement.

The article gives the applications of radioisotopes in the metallurical industry of Yugoslavia. The isotopes are used in the processess of control, automation, investigation of qualities of materials, study of technological actions, defectoscopy, measurement of the levels of materials, and measurement of thicknesses of materials.

Volkov, S. E. and Samarin, A. M.
INFLUENCE OF DEOXIDATION OF STEEL BY ALUMINUM UPON THE REMOVAL OF SULFUR FROM IT. Aug/Sep 63, 2600words
Order from HB $6.50 HB-6012

Trans. of Akad[emiya] Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvest[iya]: Met[allurgiya i] Gorn[oe] Delo, 1963, no. 2, p. 22-27.

DESCRIPTORS: *Steel, Liquid metals, Deoxidation, *Aluminum, Desulfurization.

Vul'f, B. K. and Romadin, K. P.
HEAT-RESISTANT MATERIAL PREPARED FROM SINTERED ALUMINUM POWDER (SAP). 12 Sep 63, 2p. JPRS: 21052.
Order from OTS $0.50 63-31749

Partial trans. (excerpt) of mono. Aviatsionnoe Metallovedenie (Aviation Metal Science) Moscow, 1962, p. 370.

DESCRIPTORS: *Heat resistant metals and alloys, *Aluminum compounds, *Powder metallurgy, Mechanical properties, Oxides, Atomization.

Zemskov, V. S., Suchkova, A. D. and others.
SOLUBILITY OF ALUMINIUM IN GERMANIUM AND THE EFFECT OF ALUMINIUM ON SOME ELECTRICAL PROPERTIES OF GERMANIUM. [Aug 63] 2p.
Order from SIC $8.00

Abridged trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 131-133.

DESCRIPTORS: *Aluminum, Solubility, *Germanium, Electrical properties, Crystals, Separation, Resistance (Electrical), Hall effect.

The solubility of aluminium was determined by analysis of the primary crystals separating from the melt. The effect of aluminium additions on the electrical resistivity and Hall effect of aluminium was studied. (SIC abstract)

Zemskov, V. S., Zhurkin, B. G., and Yurkina, K. V.
THE SOLUBILITY OF ARSENIC IN GERMANIUM. [Aug 63].
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 134-135.

DESCRIPTORS: *Germanium, *Arsenic, Solubility, Phase studies.

The concentrations of arsenic are tabulated in solid solutions withdrawn from a melt, and a phase diagram is given. (SIC abstract)

Zherdev, I. T. and others.
SPECIAL FEATURES OF THE STRUCTURE OF THE BATH OF A ROTARY FERROSILICON FURNACE. Aug/Sep 63, 2300 words
Order from HB $6.90 HB-5819

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1962, no. 12, p. 61-66.

DESCRIPTORS: *Iron alloys, *Silicon alloys, Rotary furnaces, Design, Electrochemistry.

Ferrous Metals

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 140. 7 Aug 63, 29p. JPRS: 20533.
Order from OTS $1.00 63-31476

Trans. of #Metallurg (USSR) 1963 [v. 8, no. 5] p. 1-2, 19-21, 33-34, 36, 39.

DESCRIPTORS: *Industrial production, *Metallurgy, Steel, Smelting, Stainless steel, Electric welding, Pipes, Steel industry, Labor, Safety, Iron, Desulfurization, Dilatometers, Rolling mills.

Contents:
Development of the oxygen converter manufacture of steel, by I. I. Bornatskii and N. A. Tereshchenko
Use of stainless steel electric welded pipes in place of seamless pipes, by V. I. Gapich and G. D. Duplii
Achievements of the Nizhnii Tagil steelmakers, by E. Filisteev
Formation and achievements of a laboratory for labor protection and safety techniques at the Nizhnii Tagil metallurgical combine, by S. V. Bareev
A flat-jet contactor tested at Zhdanov plant imeni Il'ich
New developments in Soviet metallurgy
Metallurgists of Azerbaidzhan pipe-rolling plant mobilize internal reserves for fullfillment of Seven-Year Plan," by P. Gavshin and P. Bichek.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 141. 8 Aug 63, 51p. JPRS: 20544.
Order from OTS $1.50 63-31479

Trans. of Mekhanizatsiya i Avtomatizatsiya Proizvodstva (USSR) 1963 [v. 17] no. 6, p. 8-10; Na Stroikakh Rossii (USSR) 1963, no. 5, p. 2-4, inside back cover; and 20 selected articles from 1963 issues of 12 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, *Coal, Coke, Ores (Metal sources), *Pipes, *Industrial plants, Rolling mills, Cold working, *Steel, *Iron, *Furnaces, Smelting, Construction, *Pipe lines, Oxygen equipment, *Concrete, *Sintering, Education.

Contents:
Coking coal in Western Siberia
Beneficiation factory construction in Krivoi rog
Ore beneficiation combine built in Krivoi rog area
New ore-beneficiation factory
At the Nikopol' pipe plant
At the Kazakh metallurgical plant, by A. Pestov and G. Khvatov
At the Rustavi metallurgical plant
New agglomeration factories in Krivoi rog and Kazakhstan, and output of new pipes in Azerbaidzhan
Cold-rolled strip shop at Magnitogorsk sizing plant
Admittance for post-graduate work in steel and alloys institute
At the Chelyabinsk tube rolling plant
Increase in the output of steel, iron, and rolled stock at the Leningradskii sovnarkhoz
Giant converter at Nizhnii Tagil began test smelting
Construction of the Lipetsk Magnitka
Large converter at Nizhnii Tagil combine, by P. Girenkc
Delay in construction of Zhdanov metallurgical plant mill shop, by I. Begun and others
Metallurgical plants, S. D. Samoilovich (excerpts)
Oil industry workers are to get extra strong pipes
Difficulties in pipeline construction
Construction and assembly of the largest in the country oxygen converter shop at Nizhnii Tagil metallurgical combine imeni Lenin, by M. Dunenkov
Refractory concrete blocks, by V. Nikulin
The world's largest sintering factory at Lipetsk, by B. Iodko
New electric tube-welding mill in Chelyabinsk, by V. Selyunin
Magnitogorsk calibrating plant.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 147. 30 Aug 63, 40p.
JPRS: 20856.
Order from OTS $1.25 63-31645

Trans. of Ogneupory (USSR) 1963 [v. 28] no. 2, p. 49-52; Ogonek (USSR) 1963 [v. 41] no. 29, p. 4; Mashinostroitel' (USSR) 1963, no. 6, p. 36; and 14 selected articles from 1963 issues of 10 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, Rolling mills, Construction, Open hearth furnaces, Electronic equipment, Steel, Iron, Coke, Smelting, Oxygen, Manganese, Ores (Metal sources), Electric furnaces, Pipes, Blast furnaces, Natural gas, Economics, Refractory materials, Machines, Electric welding, Industrial plants.

Contents:
A new large-section "600" rolling mill at Izhorskii plant
Gigantic rolling mills built at Novokramatorsk and Uralmashzavod
Open-hearth shop problems at the Kirovsk plant, by I. Vissarionov
Krivoi rog blooming mill is electronically controlled
The growth of metallurgy in the Soviet Union, by V. Boiko
Gigantic ozygen converters at the Nizhnii Tagil metallurgical combine, by M. Panilov
Manganese ore mining at Chyatura
Electric furnace at Elektrostal' plant
Recent achievements at the Chelyabinsk pipe-rolling plant, by V. Kryuchkov
The new Chkalovskii mining and concentrating combine
Leading Latvian metal-workers receive awards
Steel smelting without coke, by I. Kharchenko
Economies at the Zhdanov metallurgical plant
Oxygen for blast furnaces
Metal production in the Soviet Union
Refractory production in the Soviet Union
Elektrostal' heavy machine-building plant producing parts for single-design electric pipe-welding unit.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 148. 30 Aug 63, 13p.
JPRS: 20889.
Order from OTS $0.50 63-31665

Trans. of Planovoe Khozyaistvo (USSR) 1963 [v. 40] no. 7, p. 76-81, 87-88.

DESCRIPTORS: *Industrial production, *Metallurgy, Blast furnaces, Steel, Open-hearth furnaces, Iron alloys, Castings, Rolling mills, Economics, Smelting, Ores (Metal sources), Machines, Automation.

Contents:
Reserves of industrial capacities in ferrous metallurgy must be used, by D. Vetrinskii
Reserves of the Dnepr area metallurgists, by F. Volchenko and L. Kotov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 150. 11 Sep 63, 37p
JPRS: 21030.
Order from OTS $1.00 63-31731

Trans. of Bukhgalterskii Uchet (USSR) 1963 [v. 20] no. 7, p. 44; Metallurgicheskaya i Gornorudnaya Promyshlennost' (USSR) 1963, no. 3, p. 37-39; Na Stroikakh Rossii (USSR) 1963 [no. 6] p. 1; Partiinaya Zhizn' (USSR) 1963, no. 12, p. 28; and 23 selected articles from 1963 issues of 11 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, Iron industry, Rolling mills, Television equipment, Labor unions, Industrial plants, Metal plates, Personnel, Railroad tracks, Construction, Buildings, Ores (Metal sources), Natural gas, Open hearth furnaces, Steel, Foundries, Sheets, Pipes, Welding, Blast furnaces, Industrial equipment.

Contents:
Ukraine's iron ore industry in 1962, by B. T. Bakhtin
What keeps back the production of economic rolled shapes, by A. Chekmarev and A. Nizhegorodov
Production of television stabilizers in Transcaucasia, by D. Sheliya and Ya. Gorelov
Public inspection and indifference, by S. Grigor'ev
Zapadno-Sibirskii metallurgical plant, by V. Khristenko
Plant mill at the plant imeni Petrovskii, by A. Petrov

Designers work hand in hand with metallurgists
Standard for rails needs correction, by E. Demidovich
Over 600 new enterprises
Ermakovskii ferroalloy plant
New mining and concentration combine
Natural gas in Iron and steel production
Idle time due to open-hearth furnace repairs
Heavy-weight converters in Nizhnii Tagil
Bezhitsa plant found unprofitable
Activities at the Cherepovets plant
Khartsyzsk plant increases large-pipe production
Khartsyzsk plant doubles unit production
Blast furnace operations at Magnitogorsk
Key plant figure
Advertisements.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 151. 12 Sep 63, 61p.
JPRS: 21066.
Order from OTS $1.75 63-31754

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 6, p. 3-13; Narodnoe Khozyaistvo Tadzhikskoi SSSR, 1963, no. 6, p. 71-74; and 15 selected articles from 1963 issues of 9 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, Excavators, Pellets, Vacuum apparatus, Machine tools, Oxygen converters, Steel, Open hearth furnaces, Industrial equipment, Slags, Training, Wastes(Industrial), Rolling mills, Industrial plants, Electric machinery, Metallography, Slags, Ores (Metal sources), Personnel, Theses.

Contents:
Experience in using rotary-excavation installations in the open-strip pits of the Kursk magnetic anomaly, by L. A. Medvedev
Production of fluxed pellets from the ores of the Sokolovsko-Sarbai combine, by D. G. Khokhlov
Attachment for taking samples of molten metal during vacuum treatment without disturbing the vacuum in the system, by E. S. Levin and others
Retreatment of the slime from electrolytically-assisted machine tools, by F. S. Lachugin and P. A. Nuss
Activating an oxygen-converter shop in Nizhnii Tagil
Expand the production of steel in Elektrostal', by V. Solosin
Modernizing an open-hearth furnace in Asha
New equipment is delivered to the Sokolovsko-Sarbai concentrator combine
Synthetic slags are produced in Chelyabinsk, by V. Beloborodov
Economic training at the Uzbek metallurgical plant imeni Lenin, by V. Kudryakov
Utilize the wastes of metallurgical plants in the Ukrine, by B. Zolotov
Advertisement for sale of equipment
Building rolling-mill equipment for the Kirov plant
Expanding the Orsk-Khalilovo metallurgical combine
The Elektrosila plant is building rolling-mill equipment
The performance of the Donetsk metallurgical plant, by G. Zhitnik and others
Utilizing waste slags at the Azovstal' plant, by A. Romanenko
Current progress in the metallurgical industry of the Ukraine, by I. Shevchenko
The work of foremen at the Donetsk metallurgical plant, by I. Obydennykh
Advanced training for workers of the Kuznetsk metallurgical combine.

USSR INDUSTRIAL DEVELOPMENT: SOVIET FERROUS METALLURGY NO. 152. 1 Oct 63, 14p
JPRS: 21270.
Order from OTS $0.50 63-31856

Trans. of Standartizatsiya (USSR) 1963 [v. 27] no. 7, p. 44-45 and 21 selected articles from 1963 issues of 13 Russian newspapers.

DESCRIPTORS: *Industrial production, *Metallurgy, Industrial equipment, Rolling mills, Steel, Iron, Concrete, Construction, Pipes, Metal plates, Magnetic properties, Industrial plants, Hoists, Open hearth furnaces, Slags, Molding, Electric furnaces, Wire, Coke, Refractory materials, Alloys, Machines.

Contents:
Equipment for the Transbaikal metallurgists, by R. Akhmetova
Single-design rolling mill
Output-standards in steel making at the Asha metallurgical plant
Production at the Cherepovets metallurgical plant
Shortage of ferroconcrete for Ermakovskii ferroalloy plant, by A. Kovalenko
Measures to speed-up completion of a rolling shop at the plant imeni Il'ich
Conference of the Pipe Industry Workers, Dnepropetrovsk, Aug 63
Magnetic loads used at Izhorskii plant
Zaporozh'e rolling mill
Reconstruction of a rolling mill
Electro-bridge crane being assembled
Izhorskii plant puts new open-hearth furnace into operation
Orsk-Khalilovo metallurgical combine produces new open-hearth furnace
Synthetic slag at Chelyabinsk plant
Nizhnii Tagil converter
Manufacture of ultra powerful converters begun at Zhdanov plant
Oxygen in electric furnaces
Magnitogorsk expanding production facilities
New iron-wire shop operating at Magnitogorsk plant
Chelyabinsk puts new coking battery into operation
Unkilned refractory materials
Study and systematization of different types of steel and alloys in TsNIIChM, by A. S. Kaplan.

Amaki, T., Tsuneda, O., and Fukuda, M.
EFFECT OF TIM ADDITIONS TO DUCTILE IRON FOR INGOT MOLDS. Aug/Sep 63, 1600words
Order from HB $5.60 HB-6053

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 527-528.

DESCRIPTORS: *Iron alloys, Castings, Ductility Additives, *Tin alloys, Molding, Heat resist tant metals and alloys, Microstructure.

Aoyama, Y. and others.
USE OF COLD PIG IRON IN THE BASIC OXYGEN LD FURNACE. Aug/Sep 63, 1100words
Order from HB $3.85 HB-5928

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 395-397.

DESCRIPTORS: *Iron alloys, Castings, *Oxygen, Furnaces, *Steel, Cooling, Blast furnaces, Operation.

Bannykh, O. A., Modin, S., and Modin, Kh.
GROWTH OF CEMENTITE PARTICLES DURING TEMPERING OF HARDENED CARBON STEEL OF EUTECTOID COMPOSITION. [Aug 63] 9refs
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 71-77.

DESCRIPTORS: *Steel, Structural properties, Heat treatment, Electron microscopes, Annealing, Particles Growth, *Carbides, *Iron compounds.

Part of a systematic investigation of structural changes in steel after various forms of heat treatment. It covers a determination, by electron microscope examination, of the effect of annealing time and temperature on cementite formation after annealing for varying times at varying temperatures. (SIC abstract)

Becker, E. and Beck, H.
ON THE REACTIONS BETWEEN STEEL AND SLAG DURING TAPPING AND POURING, PT. II. Aug/Sep 63, 3500words
Order from HB $8.75 HB-5618

Trans of Technische Mitteilungen Krupp (West Germany) 1961, v. 19, no. 4, p. 213-218.

DESCRIPTORS: *Steel, *Slags, Open-hearth furnaces, Chemical reactions, Phosphorus, Oxygen, Liquid metals.

Biryukov, N. I.
LADLE TREATMENT OF STEEL WITH SYNTHETIC TITANIFEROUS SLAG. Aug/Sep 63, 1800 words
Order from HB $4.60 HB-6014

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1963 [v. 6] no. 6, p. 43-48.

DESCRIPTORS: Titanium compounds, Dioxides, *Slags, *Steel, Wastes (Industrial), Refineries.

Bogdanov, N. A.
EFFECT OF HEATING RATE ON THE SELF-DIFFUSION OF IRON. [Aug 63] 3p.
Order from SIC $8.00

Abridged trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 98-103.

DESCRIPTORS: *Iron, *Radioactivity, Thin films, Radioactive isotopes, *Diffusion.

Graphs are given showing the experimental results obtained. The experimental method is briefly described, in which a thin film of radio-active iron was desposited on the specimen surface. (SIC abstract)

Bühler, Hans and Buchholtz, Herbert.
THE EFFECT OF RESIDUAL STRESSES ON THE REPEATED BENDING STRESS STRENGTH (Die Wirkung von Eigenspannungen auf die Biegeschwingungsfestigkeit). [1963] [10p] (foreign text included) 18refs
Order from SLA $1.10 63-18826

Trans. of Stahl und Eisen (Germany) 1933, v. 53, no. 51, p. 1330-1332 (Verein Deutscher Eisenhüttenleute (Germany). Berichte-246).

DESCRIPTORS: *Steel, *Stresses, Quenching (Cooling), Annealing, Tensile properties, Compressive properties.

Dresia, H., Sengspiel, W., and Geflitter, I.
INVESTIGATIONS ON THE DETECTION OF DEFECTS IN THICK PLATES OF STEEL WITH γ-RAYS. Sep 63
Order from BISI £5 10s BISI-3336

Trans. of Stahl und Eisen (West Germany) 1963, v. 83 [no. 10] p. 585-593.

DESCRIPTORS: *Steel, Metal plates, Thickness, *Gamma rays, Cobalt, Cesium, Radioactive isotopes, Non-destructive testing.

Ende, H. vom and Pfaff, W.
OXYGEN CONTENTS OF LOW-CARBON RIMMING STEELS TOP-BLOWN WITH OXYGEN FROM HIGH-PHORPHORUS PIG IRONS (LD-AC PROCESS). Aug/Sep 63, 3600words
Order from HB $8.00 HB-5937

Trans. of Stahl und Eisen (West Germany) 1963, v. 83, no. 7, p. 377-381.

DESCRIPTORS: *Steel, *Castings, *Oxygen, Furnaces, Liquid metals, Phosphorus alloys, Carbon, Slags, Iron alloys.

Ermert, H., Herwig, A., and Winert, H.
DETECTION OF PIPE IN HOT BLOOMS OR SLABS BY MEANS OF GAMMA RADIATION. Aug/Sep 63, 2300words
Order from HB $6.90 HB-5961

Trans. of Stahl und Eisen (West Germany) 1963, v. 83, no. 10, p. 594-597.

DESCRIPTORS: *Gamma rays, Rolling mills, *Steel, Pipes, Detection.

Fujioka, N., Sarada, M., and Oka, M.
REFINING OF LIQUID PIG IRON IN THE ELECTRIC ARC FURNACE. Aug/Sep 63, 1450words
Order from HB $5.10 HB-5989

Trans. Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 364-366.

DESCRIPTORS: Electric furnaces, *Iron alloys, Castings, Refineries, Blast furnaces, *Liquid metals, Ores (Metal sources).

Gassner, E. and Svenson, O.
EFFECT OF DISTURBANCE VIBRATIONS ON THE ENDURANCE LIMIT. [1963] 15p
Order from ATS $16.75 ATS-48Q71G

Trans. of Stahl [und] Eisen (West Germany) 1962, v. 82, no. 5, p. 276-282.

DESCRIPTORS: *Steel, *Vibration, Stresses.

Greulich, L.
THE POST-WAR DEVELOPMENT OF STEELWORKS CRANE CONSTRUCTION. Sep 63
Order from BISI £4 BISI-3316

Trans. of Klepzig Fachberichte (West Germany) 1962, v. 70, Oct, p. 403-407.

DESCRIPTORS: *Hoists, Construction, Design, Steel industry.

Hasegawa, M. and Onoda, I.
ADDITIONS OF URANIUM TO 0.30-0.40% CARBON STEELS. Aug/Sep 63, 1100words
Order from HB $3.85 HB-5969

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 536-538.

DESCRIPTORS: *Steel, Carbon, Additives, *Uranium alloys.

Ito, T.
MACHINABILITY OF SELENIUM-ALLOYED FREE-CUTTING STAINLESS STEEL. Aug/Sep 63, 1000words
Order from HB $3.50 HB-5951

Trans. of Tetsu to Hagane (Japan) 1962, v. 48, no. 4, p. 644-645.

DESCRIPTORS: *Stainless steel, *Selenium alloys, Machining, Material forming, Chromium alloys.

Ivanov, V. I. and Osipov, K. A.
INFLUENCE OF THE HEATING RATE ON THE ACTIVATION ENERGY OF IRON AND STEEL RECRYSTALLIZATION. [Aug 63] 15refs
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 84-91.

DESCRIPTORS: *Recrystallization, *Steel, *Iron, Heat of activation, Crystal lattices, Deformation, Temperature.

The activation energy of recrystallization was determined from the velocity of recrystallization, and the effect thereon of the crystal lattice, preliminary deformation, temperature and rate of heating, and extent of recrystallization were determined, using a pure iron and a low-carbon steel. (SIC abstract)

Kazantsev, I. G. and others.
PRODUCTION OF EXTRA HEAVY PLATE OF SEMI-KILLED STEEL. Aug/Sep 63, 1000 words
Order from HB $2.80 HB-6015

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1963 [v. 6] no. 6, p. 49-50.

DESCRIPTORS: *Steel, Rolling mills, *Metal plates, Castings, Production.

Kitamura, Y. and others.
COMMENTS ON INGOT MOLDS CAST DIRECTLY FROM BLAST-FURNACE HOT METAL COMPARED WITH CUPOLA IRON Aug/Sep 63, 900words
Order from HB $3.40 HB-6047

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 525-526.

DESCRIPTORS: *Iron alloys, *Castings, Cupola furnaces, Molding, Blast furnaces, Chemical analysis, Failure (Mechanics).

Kitamura, Y. and others.
LADLE DEGASSING OF UNKILLED STEEL. Aug/Sep 63, 1200words
Order from HB $4.20 HB-6046

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 463-465.

DESCRIPTORS: *Steel, Degasification, Carbon, Mechanical working.

Kodama, K. and others.
EFFECT OF REDUCING TEMPERATURE AND AMOUNT OF REDUCING GAS UPON THE REDUCTION OF IRON ORE. June/July 63, 1300 words.
Order from HB $4.55 HB-5946

Trans. of Tetsu to Hagane (Japan) 1960, v. 46, no. 10, p. 1138-1139.

DESCRIPTORS: *Ores (Metal sources), *Iron, Reduction (Chemistry), Blast furnaces, Injection, Steam, Gases, Temperature, *Iron compounds, *Oxides

Koide, T. and others.
OPERATION OF A BASIC OXYGEN LD PLANT WITHOUT MIXER AT THE KUKIOKA WORKS OF YAWATA IRON AND STEEL CO., LTD. Aug/Sep 63, 1400words
Order from HB $4.90 HB-5927

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 394-395.

DESCRIPTORS: *Iron industry, *Steel industry, Blast furnaces, *Oxygen, Industrial plants, Operation.

Koselev, V. and Burda, S.
OXIDATION AND DECARBURIZATION OF STEEL SURFACES AND SURFACE CRACKS. Aug/Sep 63, 5900words
Order from HB $14.50 HB-5998

Trans. of Hutnik (Czechoslovakia) 1963, v. 13, no. 4, p. 180-186.

DESCRIPTORS: *Steel, Surface properties, Fracture (Mechanics), Oxidation.

Kuz'min, V. I.
CAUSES OF THE FORMATION OF "ROLLED-IN" SCALE DURING ROLLING (OF STEEL). Aug/Sep 63, 1300words.
Order from HB $3.90 HB-6002

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1963 [v. 6] no. 6, p. 96-99.

DESCRIPTORS: *Steel, Rolling mills, *Scale, Metallurgical laboratories.

Murakami, A. and others.
REDUCING CONDITIONS IN THE ELECTRIC SMELTING OF IRON ORES. June/July 63, 1300 words.
Order from HB $4.55 HB-5947

Trans. of Tetsu to Hagane (Japan) 1960, v. 46, no. 10, p. 1140-1142.

DESCRIPTORS: *Ores (Metal Sources), *Iron, Electric furnaces, Smelting, Reduction, Coke.

Nekrasov, Z. I. and Chekin, V. V.
EFFECTIVE VISCOSITY OF A FLUIDIZED BED OF POLYDISPERSE FERROMAGNETIC PARTICLES IN AN ALTERNATING MAGNETIC FIELD. [Aug 63].
Order from SIC $8.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 56-59.

DESCRIPTORS: *Fluidized solids, Viscosity, *Ferromagnetic materials, Particles, *Iron, Ores (Metal sources), Smelting, Magnetic fields.

The apparent viscosity of a fluidized bed of roasted concentrated iron ore was determined with varying alternating (50 cps) magnetic fields, both stationary and rotating. (SIC abstract)

Osawa, H. and Ito, K.
EFFECT OF SULFUR ADDITIONS ON THE MACHINABILITY OF AUSTENITIC STAINLESS STEEL Aug/Sep 63, 1000words
Order from HB $3.50 HB-5977

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 623-625.

DESCRIPTORS: *Stainless steel, Austenite, Machining, Additives, Sulfur, Cutting tools, Tensile properties.

Pauels, G.
CONTINUOUS CASTING OF STEEL AND THE PLANNING OF CONTINOUS CASTING PLANTS. June/July 63, 4500 words.
Order from HB $12.80 HB-5918

Trans. of Stahl und Eisen (West Germany) 1963, v. 83, no. 9, p. 532-539.

DESCRIPTORS: *Steel, *Casting, Industrial plants, Rolling mills, Machines, Refractory materials, Costs, Production.

Potemkin, K. N. and Grebnev, S. K.
MAGNETIC PROPERTIES OF THE FERRIC OXIDE-FERROUS OXIDE SYSTEM. [Aug 63] 11refs
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 27-31.

DESCRIPTORS: *Iron compounds, *Oxides, Magnetic properties, Ores (Metal sources), Particles, Magnetic separation.

An investigation was made of the magnetic properties of the Fe_2O_3-FeO system under conditions resembling as closely as possible those of iron ore roasting under industrial plant conditions, in which the ore particles become magnetized and can then be separated magnetically. (SIC abstract)

Povolotskii, D. Ya.
CONDITIONS OF FLAKE FORMATION IN STEEL. June/July 63, 2900 words.
Order from HB $7.50 HB-5657

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[alllurgiya] (USSR) 1963 [v. 6] no. 2, p. 120-128.

DESCRIPTORS: *Steel, *Stresses, Hydrogen, Micro structure, Transformations, Mechanical working, Cooling, Metallurgical laboratories, Rolling mills, Heat treatment, *Forging.

Sawa, Sh., Nishimura, T., and Kimura, T.
ON THE RELATIONSHIP BETWEEN THE RATE OF SOLIDIFICATION AND THE SEGREGATION OF BALL-BEARING STEEL. Aug/Sep 63, 900words
Order from HB $3.40 HB-6057

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 461-463.

DESCRIPTORS: *Steel, *Castings, Separation, Carbon alloys, Chromium alloys, *Ball bearings, Freezing, Crystal structure.

Skvortov, A. A. and Akimenko, A. D.
CONTINUOUS CASTING OF STEEL, STUDIED ON A HYDRAULIC MODEL. June/July 63, 1900 words.
Order from HB $6.70 HB-5949

Trans. of Izvest[iya] V[ysshikh] U[chebnykh] Z[avedenii]. Chern[aya] Met[allurgiya] (USSR) 1958, no. 3, p. 21-26.

DESCRIPTORS: *Steel, *Casting, *Hydraulic systems.

Telecky, J.
HOT-WORKABILITY OF SILICON STEEL. Sep 63
Order from BISI £8 BISI-3338

Trans. of Hutnik (Czechoslovakia) 1959, v. 9, no. 4, p. 121-128.

DESCRIPTORS: *Steel, *Silicon alloys, Hot working, Microstructure, Carbon.

Tomlenov, A. D.
FORMATION OF STRETCHER STRAINS IN SHEET METAL DURING PLASTIC FORMING PROCESSES. Aug/Sep 63, 1400words
Order from HB $4.20 HB-6033

Trans. of Kuznech[no]-Shtamp[ovochnoe] Proizv[odstvo] (USSR) 1963 [v. 5] no. 2, p. 17-19.

DESCRIPTORS: Sheets, Metal plates, Plasticity, Deformation, Anisotropy, *Steel, Mechanical properties.

Uchiyama, I., Nomura, M., and Ueno, M.
EXTRACTION OF NONMETALLIC INCLUSIONS FROM STEEL BY USING AN ULTRASONIC DRILL. Aug/Sep 63, 1200words
Order from HB $4.20 HB-6063

Trans. of Tetsu to Hagane (Japan) 1961, v. 47, no. 3, p. 519-521.

DESCRIPTORS: *Ultrasonic equipment, Drills, *Steel, *Inclusions (Metallurgy), Separation.

Vavilov, N. S., Tsylev, L. M., and Chao, Ch'ung-chih.
REDUCTION OF IRON ORES IN A SPOUTING FLUIDIZED BED. [Aug 63].
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 46-53.

DESCRIPTORS: *Fluidized solids, *Ores (Metal sources), *Iron, Reduction, Powder metals, Hydrogen, Coal gas, Ejection, Feasibility studies.

In addition to work devoted to the study of the feasibility of obtaining sponge iron from ore-fuel granules, laboratory investigations were carried out on the production of sponge iron and a more concentrated iron powder from ores by reduction in a spouting fluidized bed in a stream of hydrogen or of mixed gas (coal gas). (SIC abstract)

Vlasov, V. S.
INVESTIGATION OF PHASE TRANSFORMATIONS IN STEEL DURING HEATING. [Aug 63].
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 134-138.

DESCRIPTORS: *Steel, Hardness, Microstructure, *Austenite, Grain structures (Metallurgy), Nucleation, Heating, Transformations, Phase studies, Quenching (Cooling).

Microscopical examination and hardness tests were carried out on a 0.44% C steel, which, starting with either a pearlitic, a martensitic, or a spheroidal structure, was held isothermally at 750° C and quenched. The mechanism and kinetics of austenite grain formation by nucleation and growth were determined. (SIC abstract)

Wallquist G, and Nilsson, K.
SURFACE DEFORMATION IN HOT TORSION TESTING. June/July 63, 1800 words.
Order from HB $5.40 HB-5939

Trans. of Jernkontoret [Stockholm]. Annaler (Sweden) 1963, v. 147, no. 3, p. 319-334.

DESCRIPTORS: Test methods, *Torsion meters, *Forging, *Forge presses, Surfaces, Deformation, *Steel, Carbon, Stresses.

Zaruba, I., I., Potap'evskii, A. G., and [Porubinovskii, A. I.].
AUTOMATIC CARBON-DIOXIDE-SHIELDED WELDING OF LIGHT-GAGE STEEL. Aug/Sep 63, 1700words
Order from HB $4.80 HB-6044

Trans. of Avtomat[icheskaya] Svarka (USSR) 1957, v. 10, no. 3[54] p. 22-27.
Another trans. is available from LC or SLA mi$1.80, ph$1.80 in 60-13703, DSIR NLI M. 999-M. 1000 [1959] [10]p.

DESCRIPTORS: *Steel, Sheets, Welding, Carbon dioxide, *Arc welding.

Zdenek, Z. and Danda, V.
PRODUCTION OF RIMMED FREE-CUTTING STEEL BY THE BASIC OXYGEN (LD) PROCESS. Aug/Sep 63, 2000words
Order from HB $5.60 HB-6048

Trans. of Hutnik (Czechoslovakia) 1962, v. 12, no. 1, p. 8-11.

DESCRIPTORS: *Steel, Mechanical properties, Production, Furnaces, *Oxygen.

Light Metals

Astrakhantsev, S. M. and Umanskii, Ya. S.
MICROPOROSITY OF POWDERED BERYLLIUM OXIDE, tr. by Alex Lorenz. Jan 63 [9]p. 4 refs.
Order from OTS or SLA $1.10 UCRL Trans-908 (L)

Trans. of Nauchnye Doklady Vysshei Shkoly. Metallurgiya (USSR) 1958, no. 3, p. 226-230.

DESCRIPTORS: Oxides, *Beryllium compounds, *Powder metallurgy, Porous metals, Quality control, Porosity.

The underlying reason for the poor compacting property and the low specific gravity of powdered BeO is believed to be its considerable microporosity. The constriction of micro-pores begins at firing temperatures of (750° - 800°) which is lower than usual BeO firing temperature; the pore size decreases even more at 1250° - 1300° and is practically eliminated around 1600°. The increase of the powder density is accompanied not only by the decrease of microporosity but also by an increase in pore size. The method of x-ray scattering at oblique incidence in the study of microporosity, can be used as a quality control test of manufactured material. (Author)

Buttinelli, D. and Gregorio, G. de.
BEHAVIOUR OF SAP AND ALLUMINIUM IN THE THERMAL CYCLING (Comportamento di Sap e Alluminio alla Fatica Termica). 17p. (foreign text included) 5 refs DTC-16.
Order from OTS, ETC or DTC $0.80 63-26201

Trans. of la Metallurgia Italiana, 1961, [v. 53] no. 4, p. 143-148.

DESCRIPTORS: *Aluminum compounds, Oxides, Sintering, Heating, Phase transitions, Mechanical properties, *Powder metallurgy.

Nonferrous (except light) Metals

PROCESS AND DEVICE FOR THE PRODUCTION OF ZINC BY THE REDUCTION OF ZINC OXIDES IN A MULTIPLE CRUCIBLE FURNACE. Aug 63.
Order from TTIS $8.00 TTIS NS 109

Trans. of French patent of addition 79,178, by S. A. Metallurgique de Prayon, appl. 2 Apr 61, pub. 15 Feb 63.

DESCRIPTORS: *Zinc, Furnaces, Metallurgy, Zinc compounds, Oxides, Reduction (Chemistry).

USSR INDUSTRIAL DEVELOPMENT: SOVIET NONFERROUS METALLURGY NO. 75. 1 Oct 63, 29p JPRS: 21274.
Order from OTS $1.00 63-31859

Trans. of Na Stroikakh Rossii (USSR) 1963, no. 5, p. 5-6; Narodnoe Khozyaistvo Kazakhstana (USSR) 1963 [v. 21] no. 5, p. 23; and from Izvestiya (USSR) 1963, 26 Jun, p. 4; Kommunist, Erevan (USSR) 1963, 13 Jul, p. 1; Pravda, Leningrad (USSR) 1963, 5 Jul, p. 3; Pravda, Moscow (USSR) 1963, 13 Jul, p. 2.

DESCRIPTORS: *Industrial production, *Metallurgy, Aluminum, Industrial plants, Construction, Lead, Zinc, Copper, Molybdenum, Chemical industry, Concrete, Reinforcing materials.

Contents:
Criminal waste at the Irkutsk aluminum plant, by L. Shinkarev
Reasons for construction delays in aluminum industry enterprises in Krasnoyarsk sovnarkhoz, by I. Artamonov
Experimental work in lead and zinc concentrating, by H. Luk'yanova
Operations at the Agarsk copper-molybdenum combine, by A. Shkulev
Large-scale chemistry pushes on, by M. M. Komolov
Collectivity and specialization; a guarantee of success, by P. Krasil'nikov.

Azhazha, V. M., Basyutinskii, B. M., and Shapoval, B. I.
MECHANICAL PROPERTIES OF HIGH-PURITY NICKEL [Mekhanicheskie Svoistva Nikelya Vysokoi Chistoty]. [Aug 63].
Order from SIC $3.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 160-162.
Another trans. is available from OTS or SLA $2.60 in 63-19926, DSIR NLL M. 3942, July 62 [24]p.

DESCRIPTORS: *Nickel, Mechanical properties, Determination, Vacuum apparatus.

Specimens of pure nickel (99.98%) were prepared by vacuum distillation, following by vacuum re-melting, and were used for the determination of the mechanical properties. Impact tests were also carried out at -196° C, and Young's Modulus was determined at temperatures up to 750° C. (SIC abstract)

Babadzhan, A. A.
DEPENDENCE OF THE VAPOR TENSION OF MoO_3 ON THE TEMPERATURE. [1963] 8p (figs omitted) 4refs
Order from OTS or SLA $1.10 63-20294

Trans. of [Akademiya Nauk SSSR. Ural'skii Finial, Sverdlovsk. Institut Metallurgii. Trudy] 1957, no. 1 [p. 74-79].

DESCRIPTORS: *Molybdenum compounds, Oxides, *Vaporization, Temperature, Phase studies, Sublimation.

The dependence of the vapor tension of Mo O_3 on the temperature was established by investigation. The vapor tension values of Mo O_3 obtained under such circumstances were approximately three times as great as the values found by Faiser. On the basis of equality of the vapor tensions in the solid and liquid phases at the melting point of Mo O_3, we found the melting point (temperature) of Mo O_3, which comprised 797 deg; this coincides with the data of other investigations. From the experimental data, a determination was made of the latent melting heat of Mo O_3, which was equal to 29091 small calories per mole, and empirical equations for vapor tensions for solid and liquid states were deduced. (Author)

Kakabadze, V. M.
OXYDATION THERMIQUE DE L'OXYDE DE MANGANESE ARTIFICIEL ET DE MINÉRAIS DE MANGANÈSE EN PRÉSENCE DE CATALYSEURS (Thermal Oxidation of Artificial Manganese and of Manganite Ores in the Presence of Catalysts) 10p 7 refs
Order from OTS, ETC or CNRS $0.80 62-26946

Trans. in French from Zhurnal Prikladnoi Khimii (USSR) 1947, v. 20, no. 7.

DESCRIPTORS: *Manganese compounds, *Minerals, *Oxidation, Heat, Decomposition, Catalysis, Dioxides, Catalysts, Potassium compounds, Sodium compounds, *Ores (Metal sources).

Köster, Werner and Knorr, Willy.
CHANGES IN PROPERTIES DURING THE HARDENING OF A COPPER CHROMIUM ALLOY. [1963] [11p] 15refs
Order from SLA $1.60 63-16543

Trans. of Z[eitschrift für] Metallk[unde] (West Germany) 1954, v. 45, no. 6, p. 350-356.
Another trans. is available from SLA as 58-746.

DESCRIPTORS: *Copper alloys, *Chromium alloys, Hardening, Separation, Electrical conductance, Thermoelectricity, Mechanical properties, Particle size.

The kinetic development of the separation process in a copper-chromium alloy with 0.6% Cr was followed by following the electrical conductivity, the thermoelectric power, the susceptibility and the hardness. Each property responds in a particular way to structural changes. There were no indications of cold-hardening. The energy of activation of the separation is 48000 cal/Mol. By investigating with X-rays it was possible in the case of the solution and separation of the chromium to establish a slight change in the lattice constant of the copper. No-X-ray indication could be obtained of the chromium separation. There appear to be no relationships in regard to orientation between separation and solid solution. Retrogression tests showed a re-solution of the heterogeneously separated chromium particles. The amount of retrogression increases approximately linearly with the retrogression temperature. It is smaller, the higher the age-hardening temperature and the longer the age-hardening period. There are quantitative deviations between the change in the conductivity and thermo-electric power which are to be attributed to the difference in the sensitivity of the two properties to the particle size. (Author)

Kronilov, I. I.
NICKEL AND ITS ALLOYS, VOL. I, tr. by A. Aladjem. 1963, 347p. 494 refs. PL-480 Int.
Order from OTS $3.50 63-11098

Trans. of mono. Nikel' i Ego Splavy, v. 1, Moscow, 1958 [339p.].

DESCRIPTORS: *Nickel, *Nickel alloys, History, Industrial production, Mechanical properties, *Nickel compounds, Distribution, Ores (Metal sources), Deposits, Metallurgy

Contents:
History of the production and uses of nickel
Nickel, its properties and compounds
Distribution of nickel in nature
Nickel deposits
The metallurgy of nickel

Listrat, J. J.
EXTENSION FOR THE PRODUCTION OF ZINC DUST OF COMMERCIAL QUALITY FOR USE IN MULTIPLE CRUCIBLE FURNACES. Aug 63.
Order from TTIS $6.00

Trans. of French patent 1,310,547, appl. 2 Sep 61, pub. 8 Mar 63.

DESCRIPTORS: *Zinc, Particles, Furnaces, Metallurgy, Production.

Pogodin, S. A. and Shpichinetskii, E.
SOLID SOLUTIONS OF LITHIUM IN LEAD. [1963] 14p
Order from K-H $14.00 K-H 3980 c

Trans. of Akad[emiya] Nauk SSSR. Sektor Fiz[iko]-Khim[icheskogo] Anal[iza]. Izvestiya, 1947, v. 15, p. 88-95.

DESCRIPTORS: *Lithium alloys, *Lead alloys.

Szarowicz, Tadeusz.
PRODUCTION OF METALLIC SODIUM UNDER REDUCED PRESSURE (WHAT IS WORTH KNOWING). [1963] 4p
Order from K-H $4.00 K-H 8597

Trans. of Chemik (Poland) 1958, v. 11, p. 60-61.

DESCRIPTORS: *Sodium, Metals, Production, Pressure, Reduction (Chemistry).

Structural Metallurgy and Corrosion

Bargone, A., Marchesini, L., and Libondi, G.
STUDY OF THE ACTION OF BORON IN LOW ALLOY AND CARBON STEELS. May 62.
Order from BISI £5 5s BISI-2575

Trans. of Tecnica Italiana, 1961, v. 26, June, p. 247-261.

DESCRIPTORS: *Steel, Carbon, Alloys, *Boron, Hardenability, Mechanical properties.

Englander, M.
PRESENT KNOWLEDGE OF THE α-β ALLOTROPIC TRANSFORMATION IN URANIUM, tr. by M[yra] S. Feldman. [1963] 10p. (figs. omitted).
Order from OTS or SLA $1.10 AEC-tr-5113

Trans. of C[ommissariat à l']É[nergie] A[tomique, Paris] (France) no. 1508, 1960.

DESCRIPTORS: *Uranium, Transformations, Nucleation, Microstructure, Crystallization, *Grain structures (Metalluugy).

First are shown the conditions under which the problem of the α-β allotropic uranium transformation is posed technologically. The qualitative reasons are then presented for which it is possible to assume that, in unalloyed uranium: (1) the nucleation of the new phase occurs by a coherent mechanism; (2) the growth of the new phase, at the expense of the surrounding one, occurs either by a martensitic type shear mechanism, or by thermal diffusion, if the temperature and the impurity level are sufficiently high. In the strictest sense, the complete description of the allotropic transformation from which the characteristics of its mechanism should be deduced, must include: (1) examination of microstructural modifications due to phase changes, (2) experimental and theoretical determination of the transformation kinetics, (3) determination of the crystallographic orientation relationships between the principal phase and the product. (Author)

Funke, B. F., Novikova, T. A., and Tumanov, V. I.
STRUCTURE AND PROPERTIES OF TUNGSTEN-CARBON-COBALT-MOLYBDENUM ALLOYS. [Aug 63] 9 refs.
Order from SIC $12.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 113-118.

DESCRIPTORS: *Molybdenum alloys, *Cobalt alloys, *Carbon alloys, *Tungsten alloys, Phase studies, Chemical analysis, Crystal lattices, Hardness, Structural properties.

A study was made of the effect of varying Mo and C content on the phase equilibrium of the W-Co-C-Mo system and on the chemical composition of the indivd-ual phases, using microscopical examination, lattice measurements, and hardness measurements. (SIC abstract)

Grebennikov, R. V. and Shamashov, F. P.
CORROSION RESISTANCE IN A STEAM-WATER MEDIUM AND MECHANICAL PROPERTIES OF HAFNIUM WITH A HIGH ZIRCONIUM CONTENT. [1963] 8p.
Order from ATS $7.75 ATS-33Q70R

Trans. of Mono. Intern[ational] Atomic Energy Agency Conference [on] Corrosion of Reactor Materials, Salzburg, 4-8 June 62. [Proceedings] v. 2, 1962, p. 149-158.

DESCRIPTORS: *Hafnium alloys, *Zirconium alloys, *Corrosion, Mechanical properties, Steam, Water, Corrosion resistant alloys, Reactor materials.

Haasen, P. and King, A.
WORK-HARDENING AND STACKING FAULT ENERGY IN COPPER ALLOY CRYSTALS. [1963] [41p] 55refs
Order from SLA $4.60 63-20051

Trans. of Zeitschrift für Metallkunde (West Germany) 1960, v. 51, no. 12, p. 722-736.
Other translations are available from ATS $36.00 as ATS-36N53G [1961] 25p, from SLA $2.60 as 61-20526 [1961] 25p, and from FRI as FRI Trans-182 [1963].

DESCRIPTORS: *Copper alloys, *Crystals, Hardening, Energy, *Twinning (Crystallography), Crystal lattice defects, Microstructure.

Topics include: experimental procedure; work-hardening curves; work-hardening criteria; initial stress for cross slip and stacking fault energy; mechanical twinning; and, reversible change in yield stress and mechanism of alloy work-hardening.

Kano, K., Tokizane, M., and Mori, T.
INVESTIGATION INTO TITANIUM AND COLUMBIUM SULFIDES IN STEEL. Aug/Sep 63, 1100words
Order from HB $3.85 HB-6055

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 540-551.

DESCRIPTORS: *Steel, *Sulfides, Niobium compounds Titanium compounds, Microstructure.

Karpenko, G. V., Stepurenko, V. T., and Babei, Yu. I.
EFFECT OF THE METHOD USED IN THE TESTING OF METALS FOR CORROSION FATIGUE RESISTANCE. June/July 63, 700 words.
Order from HB $2.40 HB-6022

Trans. of Zavodskaya Laboratoriya (USSR) 1963, v. 29, no. 5, p. 583-584.

DESCRIPTORS: Test methods, *Corrosion inhibition, *Fatigue (Mechanics), *Metals, *Steel.

Kishitaka, H., Sato, N., and Hattori, M.
ON THE MICROSTRUCTURE OF SELF-FLUXING (BLAST-FURNACE) SINTER. Aug/Sep 63, 1000words
Order from HB $3.50 HB-6054

Trans. of Tetsu to Hagane (Japan) 1963, v. 49, no. 3, p. 329-330.

DESCRIPTORS: *Sinters, Blast furnaces, *Fluxes (Fusion), Microstructure, Microanalysis.

Lohberg, Karl and Westpahl, Herbert.
RETROGRESSION AND RECONSTRUCTION OF THE OMEGA-STRUCTURE IN TITANIUM-VANADIUM AND TITANIUM-MOLYBDENUM ALLOYS. [1963] 15p (figs [refs] omitted)
Order from SLA $1.60 63-18818

Trans. of Z[eitschrift für] Metallk[un]de (West Germany) 1958, v. 49, no. 9, p. 449-455.

DESCRIPTORS: *Molybdenum alloys, *Titanium alloys, *Vanadium alloys, Hardness, Annealing, Heat treatment, Phase studies,

The formation and retrogression of the ω-structure of titanium-molybdenum alloys were investigated at various temperatures by means of hardness, length-change, and susceptibility measurements, and by means of X-ray-graphic and metallographic observations. For the alloy TiMo14 and TiMo16, TTT-diagrams were given. The dependence on time until reaching maximum hardness of concentration were presented for several titanium-molybdenum alloys. During shock calcination of hardened titanium-molybdenum alloys to temperature above 550°, an almost complete retrogression of the ω-phase (state) took place. During subsequent annealing at lower temperature, the ω-structure was formed anew, whereby a delay commenced, longer in direct proportion to the increase in the length of time of the preceding (in the course of several changes between age hardening and retrogression-temperature) annealing at retrogression temperature. At the end of the change-treatment, the α-phase was demonstrable X-ray-graphically. During shock calcinations at temperatures between 500 and 550, an incomplete retrogression occurred, during subsequent annealing at these temperatures, however, an increase in the ω-portion occurred. Similar things were also observed on titanium-vanadium alloys. An explanation of the experimental results is given on the basis of the nucleus-formation theory. (Author)

Lozinskii, M. G. and Pertsovskii, N. Z.
BASIC FORMS OF DEFORMATIONAL MICRORELIEF APPEARING AT ELEVATED TEMPERATURES IN POLYCRYSTALLINE METALS WITH FACE-CENTRED CUBIC LATTICE STRUCTURE. [Aug 63] 3p.
Order from SIC $8.00

Abridged trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnich-eskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 105-126.

DESCRIPTORS: *Metals, *Crystal structure, *Crystal lattices, Deformation, Temperature.

The author has made an attempt to classify the basic types of microrelief appearing in face-centred cubic lattice structure metals at high temperatures, many of which are illustrated. (SIC abstract)

Lozinskii, N. G. and Pertsovskii, N. Z.
MICROSTRUCTIONAL INVESTIGATION OF PALLADIUM DEFORMATION UNDER TENSION AT ELEVATED TEMPERATURES. [Aug 63] 5p.
Order from SIC $8.00

Abridged trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 2, p. 136-144.

DESCRIPTORS: *Palladium, Deformation, Stresses, Microstructure, Microanalysis, Hardness, High temperature research.

The effect of tensile deformation on the microstructure of palladium at temperatures of 400-1000° C was determined by microscopical examination and hardness measurements. 22 photomicrographs are given in the translation. (SIC abstract)

Martynov, V. M. and Morozova, M. V.
MÉTHODE ÉLECTROCHIMIQUE POUR L'ÉVALUATION DES PROPRIÉTÉS PROTECTRICES DES LUBRIFIANTS CONSISTANTS (Determining the Rust Preventive Properties of Greases). 13p 11 refs FR-605.
Order from OTS, ETC or CNRS $0.80 62-26879

Trans. in French of Khimiya i Tekhnologiya Topliv i Masel (USSR) 1960, v. 5, no. 3, p. 22-28.
Another trans. is available in English from LC or SLA mi$1.80, ph$1.80 as 60-18740 [1960] 8p.

DESCRIPTORS: *Lubrication, Oils, *Corrosion, Atmosphere, Electrochemistry, Diffusion.

Nemcova, J. M. and others.
ORGANIC CHROMATES AS CORROSION INHIBITORS IN PRIMERS. Aug 63.
Order from TTIS $21.00 TTIS NS 125

Trans. of Werkstoffe und Korrosion (West Germany) 1963, v. 14 [no. 4] p. 257-260.

DESCRIPTORS: *Organic compounds, *Chromates, Paint primers, *Corrosion inhibition.

Nikonova, V. V. and Bartenev, G. M.
VICINAL CRYSTALLIZATION OF EUTECTIC TYPE BINARY ALLOYS [Aug 63].
Order from SIC $2.00

Trans. of Akademiya Nauk SSSR. O[tdelenie] T[ekhnicheskikh] N[auk]. Izvestiya: Metallurgiya i Toplivo, 1962, no. 1, p. 100-104.

DESCRIPTORS: *Alloys, *Eutectics, *Crystallization, Microanalysis, Microstructure, Thin films, Crystals, Tin alloys, Lead alloys, Zinc alloys, Cadmium alloys.

The vicinal crystallization of eutectic Sn-Pb, Sn-Zn, Cd-Sn, Cd-Zn and Pb-Cd alloys has been investigated by microscopical examination. As the study of single micro sections could not give sufficient information of the complex structure, a method was used in which successive thin layers were removed by polishing. (SIC abstract)

...leiffer, Irmtraud.
ELECTRON DIFFRACTION STUDIES OF THE OXIDE LAYERS ON NICKEL-CHROMIUM AND NICKEL-CHROMIUM-IRON ALLOYS (Elektronenoptische Studien an Oxydschichten auf Nickel-Chrom- und Nickel-Chrom-Eisen-Legierungen). [1963] [23p] (foreign text included) 15refs
Order from SLA $2.60 63-18592

Trans. of Z[eitschrift für] Metallk[un]de (West Germany) 1960, v. 51, no. 6, p. 322-326.

DESCRIPTORS: *Oxides, *Nickel alloys, *Iron alloys, *Chromium alloys, Spinels, *Electron diffraction analysis, Thin films, Chemical analysis.

A report is given on the composition of oxide layers of 300 to 500 Å and 10 to 30 μ thickness on 80-20, 60-15, and 30-20 NiCr alloys. The 10 to 30 μ thick oxide layers were subjected to electron diffraction studies as well as to chemical analysis. The differences found in the composition of the 300-500 Å-thick oxide layers and that of the thicker 10-30 μ layers is of interest with respect to the oxidation mechanism. While the thin layers consist predominantly of spinels, the thicker layers contain a considerable amount of Cr_2O_3. The reason for this difference is discussed from the standpoint of selective oxidation. (Author)

Philibert, Jean and Weinryle, Elie.
STUDY OF SECONDARY ELECTRONIC EMISSION IN CASTAING'S MICROPROBE. [1963] 6p 5refs
Order from SLA $1.10 63-20344

Trans. of Academie des Sciences [Paris]. [Comptes Rendus] (France) 1962, v. 255, p. 2757-2759 [pub. by Gauthier-Villars et Cie., Paris).

DESCRIPTORS: *Secondary emission, Electron beams, Microanalysis, Electron bombardment, *Probes (Electromagnetic), *Metallography, Microstructure.

The measuring of the sample current in the Castaing microprobe permits evaluation, under determined conditions, of the back-scattered and secondary emission of electrons η and Δ at the point of impact of the electronic probe. The possibilities of an application to quantitative or qualitative analysis are briefly discussed. (Author)

Pitsch, W.
THE CRYSTALLOGRAPHIC PROPERTIES OF CEMENTITE PRECIPITATION IN AUSTENITE. Sep 63
Order from BISI £5 10s BISI-3320

Trans. of Archiv für das Eisenhüttenwesen (West Germany) 1963, v. 34 [no. 5] p. 381-390.

DESCRIPTORS: *Austenite, Crystal structure, Electron microscopes, Microstructure, Chemical precipitation, Steel, Eutectics, Martensite.

Riedrich, G. and Kohl, H.
EFFECT OF VARIOUS ALLOYING ELEMENTS ON THE SUSCEPTIBILITY TO STRESS CORROSION CRACKING OF AUSTENITIC STEELS. Aug/Sep 63, 4100words
Order from HB $9.80 HB-5895

Trans. of Berg- und Hüttenmännische Monatshefte (Austria) 1963, v. 108, no. 1, p. 1-8.

DESCRIPTORS: *Steel, Austenite, Fracture (Mechanics), *Corrosion, Stresses, Nickel alloys, Copper alloys, *Corrosion resistant alloys.

Robillard, A.
INFLUENCE OF HEAT TREATMENTS IN THE β AND α PHASES ON THE MICROGRAPHIC STRUCTURE OF URANIUM, tr. by Liz Appleby. Thesis. [1963] [92]p. 57 refs.
Order from OTS or SLA $8.60 HW-TR-28

Trans. of C[ommissariat à l']É[nergie A[tomique, Paris] (France) no. 1057, 1959.

DESCRIPTORS: *Uranium, Microstructure, Phase studies, Alpha particles, Beta particles, Heat treatment, Uranium compounds, *Hydrides, Mechanical properties, *Chromium alloys, Gamma rays, Crystal structure, Grain structures (Metallurgy), Electrodes, Electrolytic polishing, *Metallography.

Methods of micrographic examination of uranium by formation of epitaxic oxide films
Polygonization substructures produced in uranium during gamma phase heat treatments
Micrographic study or uranium hydride and its effects on the mechanical properties of uranium

Schneider, F. W.
CENTRIFUGE FOR SOAKING AND DE-OILING WIRE COILS. Sep 63
Order from BISI £2 15s BISI-3374

Trans. of Technische Mitteilungen Krupp (West Germany) 1962, v. 20 [no. 4] p. 73-77.

DESCRIPTORS: *Coils, *Wire, *Centrifuges, Films, Corrosion inhibition.

NUCLEAR PHYSICS AND NUCLEAR CHEMISTRY

Ato, Yasuo, Fujimura, Ryoichiro, and Oishi, Masahiro.
STUDIES ON RADIATION ACTIVATED PHOSPHORS. II. ON THE APPLICATIONS OF RADIATION ACTIVATED PHOSPHORS. [1963] [7]p. 6 refs.
Order from OTS or SLA $1.10 AEC-tr-5700

Trans. of mono. Japan Conference on Radioisotopes (no. 4) Tokyo, 10-12 Oct 61. Proceedings, 1962, p. 607-610.

DESCRIPTORS: *Phosphorescent materials, *Radioactive decay, *Radioactive isotopes, Luminescence, Brightness, Ultraviolet radiation, Excitation, Temperature.

Dzantiev, B. G. and Barkalov, I. M.
METHOD OF PREPARING SULFUR-LABELED COMPOUNDS BY THE REACTION OF HOT SULFUR-35 ATOMS WITH CYCLIC HYDROCARBONS (Poluchenie Mechennykh po Sere Soedinenii v Rezul'tate Reaktsii Goryachikh Atomov Sery-35 s Tsiklicheskimi Uglevodorodami). [1963] [20]p. 4 refs.
Order from OTS or SLA $1.60 AEC-tr-5447

Trans. of mono. [International Atomic Energy Agency] Conference on Radioisotopes in the Physical Sciences and Industry, Copenhagen, 6-17 Sep 60. Proceedings, v. 3, 1962, p. 27-41 (STI/PUB/20).

DESCRIPTORS: *Radiation chemistry, *Labelled substances, Production, *Cyclopentanes, *Cyclohexanes, *Thiols, *Sulfides, Radioactive isotopes, *Sulfur, Synthesis, Recoil atoms, Chlorine, Neutron bombardment, Proton reactions, Separation, Purification, Exchange reactions.

Methods of obtaining sulfur-labeled compounds, such as aliphatic and cyclic mercaptans and sulfides, by direct synthesis employing recoil atoms from the reaction Cl^{35} (n, p) S^{35} are discussed. Hot S^{35} atoms were obtained in the middle of the target substance by exposing mixtures of C Cl_4 and a cyclic hydrocarbon (cyclopentane, Cyclohexane) to neutrons in a reactor. A method is given for irradiating the mixtures and then separating the various sulfur-bearing compounds by specific chemical methods, rectification, and paper and gas-liquid chromatography. The purpose of the exchange is clarified. The relation of the yield of the separated sulfur-labeled products to the composition of the mixture and type of exposure was investigated, and an active-sulfur balance settled. New types of atomic sulfur reactions were established: the CH_2-group is replaced and implanted on the C-C link. It was shown that sulfur-labeled thiophene, tetra-hydrothiopyrane, cyclopentylmercaptan, cyclohexylmercaptan, ethyl-propyl-butylmercaptans, dicyclopentyl sulfide, polymeric mercaptans and sulfides could be synthesized by heat.

Lavrukhina, A. K., Kolesov, G. M., and T'ang, Hsiao-eng.
REDUCTION OF PROMETHIUM AT A MERCURY CATHODE (Vosstanovlenie Prometiya na Rtutnom Katode). [1963] [14]p. 16 refs.
Order from OTS or SLA $1.60 AEC-tr-5504

Trans. of mono. [International Atomic Energy Agency] Conference on Radioisotopes in the Physical Sciences and Industry, Copenhagen, 6-17 Sep 60. Proceedings, v. 3, 1962, p. 369-378 (STI/PUB/20).

DESCRIPTORS: *Electrochemistry, *Radiochemistry, *Rare earth elements, Separation, *Promethium, *Cerium, *Erbium, Reduction (Chemistry), *Mercury electrodes, Mercury alloys, *Samarium, Electrolytes, Potassium.

The separation of radioactive promethium (Pm^{147}) was observed on a mercury cathode with samarium, which showed that it can be reduced to a bivalent state. A detailed study was made of the influence of a series of factors on the extent to which promethium passes into an amalgam. It was shown that promethium and other elements of the cerium group can be reduced to a bivalent state under certain conditions of electrolysis.

Mostovoi, V. I., Dikarev, V. S. and others.
MÄTNING AV NEUTROSPEKTRA I URANVATTEN OCH URAN - MONOISOPROPYLDIFENYL - GITTER (Measurement of Neutron Spectra in Uranium-water and Uranium monoisopropyl diphenyl Lattices) tr. by J. Mednis. 15p 9 refs
Order from OTS or ETC $0.80 63-26580

Trans. in Swedish of Atomnaya Energiya (USSR) 1962, v. 13, no. 6, p. 547-555.

DESCRIPTORS: Measurement, Experimental data, *Neutron spectrum, Neurton beams, Nuclear radiation spectrometers, *Uranium, Water, Diphenyl, Propyl radicals, *Crystal lattices.

Simpson, E. S., Souffriau, J. and others.
INVESTIGATIONS ON THE MOVEMENTS OF RADIOACTIVE SUBSTANCES IN THE GROUND, PTS. 1-3. Special rept. 1; Presented at the Ground Disposal Meeting (no. 4) Chalk River, Ont. 26-29 Sep 61. [1962] 38p.
Order from OTS or SLA $3.60 EURAEC-184

Trans. of a rept. from Centre d'Étude de l'Énergie Nucléaire, Brussels (Belgium) n.d.

DESCRIPTORS: *Radioactive waste disposal, *Hydrology, *Terrain, *Geology, Test equipment, *Monitors, Rods, Copper, Silver plating, Mercury, Chemisorption, Radioactive isotopes, Iodine, *Strontium, *Cesium, *Europium, Distribution.

Contents:
Geohydrology and general considerations
The copper-rod method for measuring ground-water flow
Practical aspects of the program and phisiochemical considerations

Tupitsyn, I. F., Semenova, N. K., and Avdulov, G. I.
INVESTIGATION OF ISOTOPE EFFECTS IN HYDROGEN EXCHANGE REACTIONS IN LIQUID HYDROGEN BROMIDE AND LIQUID AMMONIA (Issledovanie Izotopnykh Effektov pri Reaktsiyakh Vodorodnogo Obmena v Zhidkom Bromistom Bororode i Zhidkom Ammiake). [1963] [18]p. 14 refs.
Order from OTS or SLA $1.60 AEC-tr-5503

Trans. of mono. [International Atomic Energy Agency] Conference on Radioisotopes in the Physical Sciences and Industry, Copenhagen, 6-17 Sep 60. Proceedings, v. 3, 1962, p. 256-267 (STI/PUB/20).

DESCRIPTORS: *Radiochemistry, *Hydrogen, Isotopes, *Deuterium, *Tritium, *Exchange reactions, *Naphthalenes, *Diphenyl, Hydrogen compounds, *Bromides, *Ammonia, *Benzenes, Catalysts, Potassium compounds, Amides, Deuterated compounds, Tritiated compounds, Synthesis (Chemistry).

The subject of the investigation was the thermodynamic isotope effects in naphthalene-hydrogen bromide and benzene-ammonia systems in the presence of potassium amide acting as a catalyst. Protium, deuterium and tritium atoms were present in the system during the experiments. In the experiments on direct and "reverse" exchange, the kinetic isotope effects of hydrogen were measured in the liquid-phase systems hydrogen bromide-diphenyl and benzene-ammonia. The mechanisms of exchange reactions of aromatic hydrocarbons with HBr and NH_3 are considered with regard to the findings of kinetic experiments. There is a brief description of the methods of preparation in which deuterized and tritiated compounds are used. For tritium counting a scintillation coincidence system was used; and spectroscopic and mass spectrometric methods were used for the isotopic analysis of deuterized substances. (Author)

Val'ter, A. K. and Finkel'shtein, V. E.
APPLICATION OF THE SIMILARITY METHOD TO INVESTIGATE THE MOVEMENTS OF POWERFUL BEAMS OF CHARGED PARTICLES IN HIGH VOLTAGE ELECTROSTATIC FIELDS. 25 Jul 63, [10p] FTD-TT-63-514.
Order from OTS or SLA $1.10 63-23791

Unedited rough draft trans. of Kharkov U. Ucheni Zapysky (USSR) 1955, v. 64, p. 95-100.

DESCRIPTORS: *Charged particles, *Particle beams, Motion, *Electrostatic fields, Equations of motion, Space charges, Particle accelerators, Focusing, Particle trajectories.

Instruments and Installations

Bergere, R., Delezenne, E., and Veysiere, A.
CURRENT MONITORS FOR A LINEAR ELECTRON ACCELERATOR. [1963] 27p (figs. formulae refs. omitted).
Order from SLA $2.60 63-18781

Trans. of Nuclear Instruments and Methods (Netherlands) 1962, v. 15, p. 327-354.

DESCRIPTORS: *Linear accelerators, *Electron accelerators, Magnetic cores, Transformers, Microwaves, *Detectors, Loop antennas, *Electron beams, Fourier analysis, Series, *Radiation measurement systems.

Golovnya, V. Ya., Zalyubovskii, I. I., and Shilyaev, B. A.
SENSITIVE CURRENT INTEGRATOR (Chuvstvitel'nyi Integrator Toka). [1963] [10]p. 6 refs.
Order from OTS or SLA $1.10 AEC-tr-5585

Trans. of mono. [International Atomic Energy Agency] Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 3, 1962, p. 441-445. (STI/PUB/42).

DESCRIPTORS: *Particle beams, Measurement, *Radiation measurement systems components, *Integrators, Capacitors, Vibrators (Electrical), Electron tubes, Electrometers, Circuits.

In various physics applications the need may arise to measure small beams of charged particles. For this purpose equipment was developed based on the discharge of a capacitor by the current that is being measured; the capacitor is charged by a multi-vibrator forming part of the circuit. The sensitive element of the circuit is a 6JIJ-type tube operated as an electrometer. With a sensitivity stability of 1% a current of 10^{-13} A can be measured with high accuracy. If the operating range of the measuring tube is especially selected, the leakage current can be compensated by the thermal electrons. The leakage current may then be reduced to 10^{-16} or 10^{-17} which permits measurement of currents of 10^{-14} to 10^{-15} A with an accuracy of 1%. (Author)

Matalina, L. A., Chubarova, S. I., and Tishechkina, A. S.
DEVICES FOR PROCESSING OF DATA FROM MULTICHANNEL ANALYZERS (Ustroistva dlya Obrabotki Dannykh Mnogokanal'nykh Analizatorov). [1962] 7p. 3 refs.
Order from OTS or SLA $1.10 AEC-tr-5411

Trans. of mono. Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 2, 1962, p. 121-125 (STI/PUB-42).

DESCRIPTORS: *Data processing systems, *Nuclear radiation spectrometers, Film readers, *Conferences, Time-interval counters.

Contents:
Device for preliminary processing of data from a neutron transit-time selector
Device to process the data from a scintillation gamma spectrometer.

Rumler, Shtirad.
MULTI-CHANNEL RECORDING OF A PULSE SPECTRUM ON A CATHODE RAY TUBE SCREEN IN A FERRITE-MEMORY ANALYZER (Mnogokanal'naya Zapis' Spektra Impul'sov na Ekrane Elektronno-Luchevoi Trubki u Analizatora s Ferritovoi Pamyat'yu). [1963] [7]p. 2 refs.
Order from OTS or SLA $1.10 AEC-tr-5506

Trans. of mono. [International Atomic Energy Agency] Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 3, 1962, p. 41-45. (STI/PUB/42).

DESCRIPTORS: *Radiation measurement systems components, *Pulse analyzers, *Recording systems, *Memory devices, *Ferrites, Oscilloscopes, *Cathode ray tube screens.

The paper describes a block-diagram of programme circuits with which it is possible to obtain a multi-channel trace of an expanded pulse-spectrum analysis on the screen of a Williams tube used in combination with a static ferrite memory. The quality of the recording depends neither on the shape of the spectrum nor on the pulse-counting rate. This method is used in a 256-channel analyzer with a ferrite memory of dead-time 15 μs An oscillographic trace, with a period equal to that of the spectrum analysis cycle, is produced periodically at a frequency of 50 cycles per second. The period of the trace cycle is approximately 4 ms, i.e., 20% of the total duration of the working-cycle of the analyzer. In the case of analyzers with a smaller number of channels and with a memory of shorter dead-time, the time for the oscillographic recording is only a few percent of the duration of the working-cycle of the analyzer. (Author)

Sinaev, A. N.
MULTICHANNEL SYSTEMS USED FOR HIGH ENERGY PARTICLE RESEARCH ON THE JINR SYNCHROCYCLOTRON (Mnogokanl'nye Sistemy Primenyayushchesya v Issledovaniyakh s Chastitsami Vysokikh Energii na Sinkhrotsiklotrone Oiyai). [1963] [14]p. 16 refs.
Order from OTS or SLA $1.60 AEC-tr-5633

Trans. of mono [International Atomic Energy Agency] Conference on Nuclear Electronics, Belgrade, 15-20 May 61. Proceedings, v. 3, 1962, p. 287-297 (STI/PUB/42).

DESCRIPTORS: *Synchrocyclotrons, *Electronic equipment, *Radiation measurement systems components.

The working conditions of a synchro-cyclotron present a number of special requirements concerning the electronic equipment used for high-energy particle research. The most important features are the pulsating operation of the synchro-cyclotron and the necessity of isolating the processes under investigation from many others and from the external radiation background. Multi-channel systems are widely used with a synchrocyclotron for work on angular distribution, energy spectra and the lifetimes of various nuclear particles, as well as for research on other nuclear processes. The paper presents original systems developed in the Nuclear Research Laboratory. (Author)

Tsitovich, A. P. and Sotnikov, S. K.
MATRIX TIME ANALYZER WITH MEMORY-CAPACITOR COMMUTATORS FOR A MECHANICAL NEUTRON SELECTOR. [1963] [19]p. 5 refs.
Order from OTS or SLA $1.60 AEC-tr-4699

Trans. of mono. Matrichnyi Vremennoi Analizator s Kommutatorami na Emkostyakh Pamyati dlya Mekhanicheskogo Neitronnogo Selektora, Moscow, 1960 [19p.].

DESCRIPTORS: *Neutron counters, *Time-interval counters, Memory devices, Capacitors, *Coincidence counting, Diodes, Circuits, Operation.

The principle of the operation of a 160-channel matrix time analyzer for a mechanical neutron selector is described and its circuits are presented. Fundamental to the matrix circuit are the memory-capacitor commutators and the diode coincidence circuit. The analyzer is calculated to operate with a channel width of from 2 to 120 microseconds. (Author)

Vasil'ev, A. A. and Kuz'mina, N. I.
AUTOMATIC CLOSED ORBIT CONTROL, tr. by E. Fischer. 18p. 9 refs. AR/Int. SG/62-14
Order from OTS or ETC $1.30 63-26184

Trans. of Academy of Sciences of the USSR. Radiotechnical Institute. Report NT 3461-60. Moscow 1961.

DESCRIPTORS: Acceleration, Vacuum apparatus, *Particle beams, Automatic, *Control systems.

Nuclear Engineering and Power

ABSTRACTS OF 40 AEC-OWNED BELGIAN PATENTS MADE AVAILABLE FOR LICENSING. 4 Oct 63, 12p
Available from AEC free AEC IN-454

DESCRIPTORS: *Patents, Inventions, *Belgium, *Abstracts, *Nuclear engineering.

Contents: 614 574, 614 736, 614 796, 614 860-614 861, 616 550, 616 759, 617 019, 617 454-617 457, 617 678, 617 751, 617 797, 617 909, 618 432, 619 003, 619 109, 619 172, 619 365, 619 727, 620 083-620 086, 620 388-620 389, 621 032, 621 181-621 182, 621 935, 621 972, 622 094, 622 210, 622 248, 622 406, 622 829, 624 049, 624 300.

HEAT TRANSFER AND STABILITY STUDIES IN BOILING WATER REACTORS. Quarterly rept. 6, 1 Apr-1 July 62, on Contract 032-60-11 RDH. [1963] [42]p. 9 refs.
Order from OTS or SLA $4.60 EURAEC-414

Trans. of a rept. from [Technische Hogeschool] Eindhoven (Netherlands) July 62.

DESCRIPTORS: *Boiling water reactors, Heat transfer, Stability, *Heat exchangers, Design, *Heaters, Control systems, *Scintillation counters, Tests, *Thermocouples, Callibration, *Electric bridges.

For abstract see Nuclear Science Abstracts 17: 1554, 1963. (See also EURAEC-276)

[RESEARCH INTO THE] DIFFUSION OF RARE GASES IN SOLIDS. Special technical rept. no. 7, 11 Nov 61-12 Mar 62, on Contract 064-61-8-RDD. [1963] [24]p. 6 refs.
Order from OTS or SLA $2.60 EURAEC-363

Trans. of a rept. from Hahn-Meitner Institut für Kernforschung, Berlin (West Germany) n.d.

DESCRIPTORS: *Reactor fuels, *Uranium compounds, Carbides, Graphite, Induction heating, *Fission products, *Helium group gases, *Xenon, Diffusion, Measurement.

Experiments are described for measuring the postactivation diffusion of Xe 133 from a sintered mixture of uranium carbide and graphite. They were conducted on sintered lumps prepared for the gas-cooled BBC-Krupp-Kugelhaufen reactor and whose composition is UC_{45}. In the range of 800 to 1600°C, the samples were heated inductively by high frequency currents under a vacuum of 10^{-3} to 10^{-4} Torr and the escaping xenon was measured discontinuously. When the temperature is raised by steps, the first step gives rise to a spurt of Xe 133 evolution, which is in general not repeated when the temperature is raised again. A test made with a preheated sample does not introduce any marked change in the release of xenon, even if repeated several times. The tests can therefore not be evaluated directly according to the theory. It is however possible to make an approximate evaluation and to estimate an activating energy for the diffusion. (Author) (See also EURAEC-250)

STATISTICAL METHODS FOR HOT CHANNEL AND HOT SPOT CALCULATION. Quarterly rept. [7] 31 July-30 Sep 62, on Contract 035-60-11 RDI. [1963] [18]p. 2 refs. FN-E-29.
Order from OTS or SLA $1.60 EURAEC-500

Trans. of a rept. from FIAT, S.A., Turin (Italy) 30 Oct 62.

DESCRIPTORS: *Boiling water reactors, Heat transfer, *Statistical analysis, Models (Simulations), *Monte Carlo method.

In view of future applications to specific reactor cases of the "spot model", proposed in the present research our present point of view concerning the general hot spot problem is summarized. Distinction is made between the conventional approach, the conventional statistical approach and the spot model statistical approach. Work has been proceeding during the quarter on the set up of a Monte Carlo code, called HYTHEST, to apply the 'spot model' to a boiling water reactor core. The facilitate numerical comparison table has been prepared, for the evaluation of every correction factor according to the current method; a rapid method is also suggested to obtain values close to those furnished by the HYTHEST code. (Author) (See also EURAEC-406)

Anderson, E., Bollmann, W. and others.
THE EFFECT OF RADIATION ON THE DUCTILE-BRITTLE TRANSITION IN PRESSURE VESSEL STEELS. Quarterly rept. no. 7, 1 July-30 Sep 62, on Contract 041-60-12-RDS. [1963] [39]p.
Order from OTS or SLA $3.60 EURAEC-485

Trans. of a rept. from Battelle Memorial Inst., Geneva (Switzerland) Oct 62.

DESCRIPTORS: *Reactor systems components, *Pressure vessels, *Steel, Ductillity, Brittleness, Transitions, *Radiation effects, *Grain structures (Metallurgy), *Twinning (Crystallography), *Domains (Crystallography).

The report deals with the progress made in the evaluation of the tensile properties of the base material, Armco iron. The phenomenon of Lüders bands was further studied and the model proposed in the Fifth Quarterly Report was elaborated. The activation volume and activation energy for Lüders propagation have been calculated from rate change experiments. For one series of specimens, the volume decreases from 110 to 50 b^3 with decrease in temperature from 296 to 219°K, and the energy also decreases from 0.675 to 0.35 e.v. The activation volume for flow for this same series varies from 633 b^3 at 296°K to 70 b^3 at 219°K. Some Lüders profiles were also measured and it seems that the shape of the band front depends on the grain size. Attention was paid to the twinning incidence in specimens tested at low temperatures. Twinning is a function of grain size and temperature, increasing with decrease in temperature, but is apparently not a function of the transition temperature. The stress to initiate twinning depends on grain size, and is constant for a constant grain size. (Author) (See also EURAEC-370)

Astashenkov, P. T.
ATOMIC INDUSTRY: SELECTED PARTS. 21 Aug 63, 35p. JPRS: 20754.
Order from OTS $0.75 63-31593

Trans. of mono. Atomnaya Promyshlennost', Moscow, 1962, p. 10-28, 113-132, 197-198.

DESCRIPTORS: *Nuclear reactions, Nuclear energy, *Fission, Thermonuclear reactions, Fuels, *Deuterium, *Tritium, *Lithium, *Nuclear power plants, Ion engines.

Contents:
Nuclear reactions as a source of energy
Nuclear fission and thermonuclear fuel
The production of deuterium and tritium
The production of lithium a metal of the future
Nuclear motors.

Darras, R., Bacque, P., and LeClercq, D.
COMBUSTIBILITY OF MAGNESIUM AND URANIUM HEATED IN DIFFERENT GASEOUS MEDIA, tr. by Helen Basil. July 61 [53]p. (refs. omitted).
Order from OTS or SLA $5.60 AEC-tr-4836

Trans. from mono. Colloque de Métallurgie, Corrosion Seche-Corrosion Aqueuse (Colloquium on Metallurgy, Dry Corrosion-Aqueous Corrosion) (no. 3) Centre d'Études Nucléaires de Saclay, Gif-sur-Yvette, 29 June-1 July 59, pub. 1960.

DESCRIPTORS: *Gas-cooled reactors, Reactor hazards, *Reactor fuel elements, *Uranium, Reactor fuel cladding, *Magnesium, Heating, *Flammability, *Ignition, Combustion, Air, Carbon dioxide.

Magnesium, uranium and some of their alloys burning temperatures were systematically determined in an air or carbon dioxide atmosphere, either dry or wet. Two different ways of heating were used: either continuously rising up the temperature, or heating to and then maintaining a constant temperature. The results are clearly different in the two cases. Besides, if moisture has little effect on the magnesium burning temperatures in air, it does lower them by about 130-140°C in CO_2. The differences of sight between the burning of magnesium and uranium have been noticed; this leads to distinguish between an "ignition" and an "inflammation." (Author)

Domanus, J. and Kaminski, B.
UTILISATION DES ISOTOPES RADIOACTIFS POUR LA RÉGULATION DU NIVEAU DES LIQUIDES (Application of Radioactive Isotopes to the Liquid Level Control). 15p
Order from OTS, ETC or CNRS $0.80 62-26967

Trans. in French of Przemysl Chemiczny (Poland) 1958, v. [14] (37) no. 10, p. 673-676.

DESCRIPTORS: *Radioactive isotopes, *Liquid level control, Installation.

Gebhardt, E., Seghezzi, H.-D., and Dürrschnabel, W.
STUDY OF THE ZIRCONIUM-OXYGEN SYSTEM. PT. III. RECRYSTALLIZATION BEHAVIOR OF ZIRCONIUM WIRES. [1963] 4p
Order from ATS $5.00 ATS-01Q72G

Trans. of J[ournal of] Nucl[ear] Mater[ials] (Netherlands) 1961, v. 4, no. 3, p. 269-271.

DESCRIPTORS: *Wire, *Zirconium, *Recrystallization, *Oxygen, *Reactor materials.

PERSONNEL SUPPLIES AND PERSONAL EQUIPMENT

DEVICE FOR PROTECTION AGAINST GAS/GASES. [1963] [5p]
Order from OTS or SLA $1.10 63-18187

Trans. of French patent 745,987, appl. 26 Jan 32, pub. 20 May 33, delivered 26 Jan 32, to Comp. Fr. d. Prod. Org. Chim. and 745,987 (suppl. 42,784) deliv. 7 Aug 33.

DESCRIPTORS: *Gas masks, Gas mask canisters, Poisonous gases, *Adsorption, *Carbon.

PROCESS AND PRODUCTS USED IN TREATING AND WASHING SKIN AND HAIR. [1963] 3p
Order from OTS or SLA $1.10 63-18203

Trans. of French patent 847,001, pub. 2 Oct 39.

DESCRIPTORS: Hair, Skin, *Toilet articles, Germicides, Soaps, Ointments, Manufacturing methods.

Ehrhardt, Franz.
PRODUCTS FOR WASHING SCALP AND HAIR. [1963] 7p
Order from OTS or SLA $1.10 63-18193

Trans. of French patent 786,533 [1935].

DESCRIPTORS: Skin, Hair, *Toilet articles, *Soaps, Manufacturing methods.

PHYSICS

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 257 (PHYSICS AND MATHEMATICS SERIES). 6 Aug 63, 10p. JPRS: 20508.
Order from OTS $0.50 63-31462

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia.

DESCRIPTORS: *Abstracts, *Physics, *Mathematics, *Czechoslovakia, Education, Plasticity, Stresses, Programming (Computers), Algebra, Magnetic properties, Applied mathematics, Semiconductors, Materials, Crystal structure, Mathematicians, Biographies, Nuclear physics, Scientific research.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 284 (PHYSICS AND MATHEMATICS SERIES). 4 Sep 63, 28p. JPRS: 20914.
Order from OTS $0.75 63-31671

Consists of abstracts of articles from the scientific and technical journals of Czechoslovakia, East Germany and Poland.

DESCRIPTORS: *Abstracts, *Physics, *Mathematics, Czechoslovakia, East Germany, Poland, Filters (Electromagnetic wave), Vacuum apparatus, Electron microscopes, Crystal lattice defects, Molecular structure, Shear stresses, Silver compounds, Chlorides, Crystals, Thermal conductivity, Spheres, Motion, Gases, Adsorption, Paramagnetic resonance, Electromagnetic wave reflections, Statics, Titanates, Quantum mechanics, Palladium alloys, Magnetic properties, Silicon, Germanium, Electrons, X-rays, Neutrons, Scattering, Particles, Magnetohydrodynamics, Field theory, Reactor reactivity, Plasma physics, Electric discharges, Relativity theory, Barium, Stable isotopes, Nonlinear systems, Control systems, Matrix algebra, Operators (Mathematics), Partial differential equations, Boundary value problems, Differential equations, Functional analysis, Monte Carlo method, Linear programming, Pions, Groups (Mathematics), Neutrinos, Polymers, Nucleons, Polarization, Perturbation theory.

ABSTRACTS FROM EAST EUROPEAN SCIENTIFIC AND TECHNICAL JOURNALS NO. 307 (PHYSICS AND MATHEMATICS SERIES). 27 Sep 63, 7p JPRS: 21239
Order from OTS $0.50 63-31836

Consists of abstracts of articles from the scientific and technical journals of Bulgaria and Hungary.

DESCRIPTORS: *Abstracts, *Physics, *Mathematics, *Bulgaria, *Hungary, Conferences, Transformations (Mathematics), Meteorological parameters, Solar eclipse, Nuclear radiation spectrometers, Venus, Sodium compounds, Chlorides, Iodides, Crystal structure, Radiation effects, N-body problem, Green's function, Geiger counters, Timing devices, Strontium, Superconductivity.

USSR SCIENTIFIC ABSTRACTS: PHYSICS AND MATHEMATICS NO. 3. 30 Aug 63, 70p. JPRS: 20866.
Order from OTS $2.00 63-31652

Consists of abstracts of articles from USSR scientific and technical journals.

DESCRIPTORS: *Abstracts, *Physics, *Mathematics, Plasma physics, Magnetohydrodynamics, Shock waves, Supersonic characteristics, Aerodynamics, Hydrodynamics, *Mechanics, Solid state physics, Optics, Acoustics, Particle accelerators, Instrumentation, Mathematical analysis, Differential equations, Integral equations, Automatic, Control, Numerical methods and procedures.

Contents:
I. Physics
Theoretical plasma physics
Experimental plasma physics
Magnetohydrodynamics
Shock dynamics; supersonic aerodynamics
Hydrodynamics
Mechanics
Solid state physics
Optics and acoustics
Accelerators
Instrumentation
II. Mathematics
Analysis
Differential and integral equations
Automatic control theory
Numerical methods.

Bohr, N.
TWO LECTURES. ED. BY I. S. ALEKSEEV (Dva Vystupleniya). 16p (foreign text included). DTC-25.
Order from OTS, ETC or DTC $0.80 63-26959

Unedited draft trans. of Voprosy Filosofii (USSR) 1961, v. 15, no. 8, p. 156-160.

DESCRIPTORS: Physics, *Quantum mechanics, Photons.

Goncharova, E. E. and Kiseleva, M. V.
ON CONDITIONS OF RADIO COMMUNICATION IN HIGH AND MIDDLE LATITUDES. 28 June 63 [18]p. 14 refs. FTD-TT-63-443.
Order from OTS or SLA $1.60 63-23639

Unedited rough draft trans. of #Geomagnetizm i Aeronomiya (USSR) 1963, v. 3, no. 1, p. 94-103.

DESCRIPTORS: *Radio transmission, *Ionospheric propagation, Ionospheric disturbances, Magnetic storms, *Radiofrequency interference, Radio waves, Electromagnetic wave reflections.

A study was made of ratio communication conditions in high and middle latitudes as a function of the state of the ionosphere. It is shown that prolonged communication breakdowns are observed during strong magneto-ionospheric disturbances. Breakdowns in communication were observed on long radio links even when the ionosphere was in a quiet state. The study examined the possibilities for radio communication at high frequencies through reflection of radio waves from the sporadic E_s layer. (Author)

Keller, M. and Ploke, M.
VISUAL DISPLAYS OF X-RAY PHOTOGRAPHS USING A TELEVISION CAMERA TUBE WHICH RESPONDS TO X-RAYS. [1963] 18p.
Order from ATS $25.50 ATS-08Q70G

Trans. of Z[eitschrift] fur Angew[andte] Phys[ik] (West Germany) 1955, v. 7, no. 12, p. 562-571.

DESCRIPTORS: *Television display systems, Cathode ray tubes, X-ray photography, X-rays.

Krahl, K. and others.
PROCESS FOR THE PRODUCTION OF ANISOTROPIC CERAMIC OXIDE MAGNETS. Aug 63.
Order from TTIS $4.00 TTIS NS 124

Trans. of East German patent 24,885, appl. 11 June 58, pub. 12 Mar 63.

DESCRIPTORS: *Magnets, *Ceramic materials, *Oxides, Anisotropy, Production.

Office of Technical Services, Dept. of Commerce, Washington, D. C.
MASERS AND LASERS. Jul 62, 15p 203refs
OTS Selective Bibliography SB-488, suppl. 1
Order from OTS $0.10 OTS SB-488

DESCRIPTORS: *Masers, *Lasers, Irasers, Semiconductor devices, *Bibliographies.

Lists 203 reports and translations added to the OTS collection during the period July 1962 to August 1963. Covers research on optical and infrared masers, solid-state masers, solid-state maser applications, atomic hydrogen masers, maser-type spectroscopy, effects of intense laser-beams, maser preamplifiers, laser rangefinders, liquid laser research, laser signals laser devices gas discharge lasers, lasers and irasers as antimissile weapons, ewaser research, research on materials for masers and lasers. (Author)

Zhukauskas, A. A., Schlanchyauskas, A. A., and Yaronis, E. P.
INVESTIGATION OF THE EFFECT OF ULTRASONIC WAVES ON THE HEAT TRANSFER OF BODIES IN LIQUIDS. [1963] [5]p. 2 refs.
Order from OTS or SLA $1.10 63-18437

Trans. of Inzhenerno-Fiz[icheskii] Zhur[nal] (USSR) 1961, v. 4, no. 1, p. 58-62.
An unedited rough trans. is available from OTS or SLA $1.60 in 62-15830, FTD-TT-61-110, 18 Jan 62 [19]p.

DESCRIPTORS: *Ultrasonic radiation, *Heat transfer, Convection, *Cylindrical bodies, *Liquids, Water, Oils, Acoustics.

An experimental investigation of heat transfer under conditions of free and forced convection was carried out in water and in transformer oil. It was shown that with increase of intensity of field strength the heat transfer is increased, but with increase of forced convection by the same intensity the amount of improvement of it is lowered. For the investigated case the influence of the phase of the wave on heat transfer is small and quantitatively did not exceed the limits of error.

Electronics

Grosskopf, J.
LOSS IN ANTENNA GAIN DUE TO SCATTERING [Gewinaverluste bei Scatter] tr. by A. P. Barsis. 21 Sep 60 [10p] 2refs NBS Trans. T4-60.
Order from OTS or SLA $1.10 62-23848

Trans. of Deutsche Bundespost. Fernmeldetechnisches Zentralamt. [Technische Bericht]-5552, 25 Oct 59.

DESCRIPTORS: *Antennas, *Gain, Scattering, Dipole antennas, Parabolic antennas, Statistical functions, Attenuation, Measurement.

The loss in antenna gain when receiving scattered radiation is determined by comparative measurements between broad-beam reference antennas (dipoles), and narrow-beam operating antennas having various diameters (for instance, paraboloids). Furthermore, theoretical estimates exist which resulted from geometrical optics approximations of the effective scattering volume within the propagation model. This paper demonstrates how the loss in gain may be obtained from measuring the spatial correlation function of the received field existing at the receiving location. (Author)

Tkalich, E. F. and Tkalich, V. S.
STEADY-STATE CONDITIONS OF HIGH-TEMPERATURE PLASMA: A PINCH IN A LONGITUDINAL MAGNETIC FIELD. 21 May 63 [18]p. 16 refs. FTD-TT-63-373.
Order from OTS or SLA $1.60 63-23626

Unedited rough draft trans. of #Zhurnal Tekhnicheskoi Fiziki (USSR) 1962, v. 32, no. 12, p. 1418-1427.

DESCRIPTORS: *Plasma physics, Dynamics, *Magnetic pinch, Magnetic fields.

Steady-state conditions of high-temperature plasma were studied in a kinetic approximation. The radial distribution of density, azimuthal current, and other macroscopic physical values in a pinch with longitudinal magnetic field were investigated. (Author)

Molecular Physics and Spectroscopy

Clausing, P.
ON THE FLOW OF DILUTED GASES THROUGH TUBES OF RANDOM LENGTH. [1963] 23p (formulae omitted) 24refs
Order from SLA $2.60 63-20121

Trans. of Annalen der Physik (Germany) 1932, ser. 5, v. 12, p. 961-989.

DESCRIPTORS: *Gas flow, *Pipes, Molecular properties, *Fluid flow, Integral equations, Mathematical analysis

Kirillov, E. A., Nesterovskaya, E. A., and Gol'denberg, A. B.
EFFECT OF OPTICAL DENSITY AND LIGHT FLUX INCIDENT ON A PHOTOELECTRIC CELL, UPON THE FORM OF SILVER HALIDE SPECTRAL ABSORPTION CURVE. [1963] 8p. 12 refs.
Order from OTS or SLA $1.10 63-18726

Trans. of Zhurnal Nauchnoi i Prikladnoi Fotografii i Kinematografii (USSR) 1963, v. 8, no. 1, p. 47-50.

DESCRIPTORS: *Phototubes, Light, Optical properties, Density, *Absorption spectrum, Halides, *Silver compounds, *Chlorides, Photographic emulsions, *Spectrophotometers, Absorption, Intensity, Neodymium, Praseodymium, Glass.

Ladenburg, R. and Minkowski, R.
THE HEAT OF VAPORIZATION OF SODIUM AND THE PROBABILITY OF THE TRANSITION OF THE SODIUM ATOM FROM THE RESONANCE STATE TO THE NORMAL STATE ON THE BASIS OF OPTICAL MEASUREMENTS. [1963] 18p (figs. omitted) 30refs
Order from SLA $1.60 63-18686

Trans. of Z[eitschrift für Physik (Germany) 1921, v. 6, p. 153-164.

DESCRIPTORS: *Heat of sublimation, *Sodium, *Phase transitions, Resonance, *Quantum statistics, Atomic energy levels, Optical analysis, Mathematical analysis.

Optics

STIMULATED EMISSION FROM ORGANIC MOLECULES WITH POSSIBLE LASER APPLICATIONS: REVIEW ARTICLE. AID report on Work Assignment no. 43. 17 June 63 [8]p. AID Rept. P-63-85.
Order from OTS or SLA $1.10 63-19968

DESCRIPTORS: *Lasers, *Luminescence, *Spectroscopy, Molecules, Organic materials, Scientific research, Secondary emission, Stimulation, Electron transitions.

Aben, Kh.
OPTICAL EFFECTS IN LIGHT TRANSMISSION THROUGH A PILE OF DOUBLY REFRACTING PLATES (Ob Opticheskikh Yavleniyakh pri Prosvechivanii Stopy Dvuprelomlyayushchikh Plastinok). [1963] [12p] (foreign text included) 9refs
Order from OTS or SLA $1.60 63-18700

Trans. of Akademiya Nauk Estonskoi SSR [Tallinn]. Izvestiya. Seriya Fiziko-Matematicheskikh i Tekhnicheskikh Nauk, 1962 [v. 11] no. 1, p. 16-23.

DESCRIPTORS: *Light transmission, *Lenses, Optical properties, Polarization, Equations, Mathematical analysis, Optics

It is shown that there exist always two perpendicular positions of polarizer by which the light emerging from a pile of double-refracting plates is linearly polarized. The corresponding directions of vibration of the emergent light are also perpendicular to each other. These directions are called the characteristic directions of the optical system. The properties of the characteristic directions are analogous to the properties of principal directions by a single double-refracting plate except that the characteristic directions at the point of incidence and at the point of emergence are rotated relatively to one another through an angle. It is proved that the phase difference characterizing the ellipse of the emergent light relative to characteristic directions (the so-called characteristic phase difference) does not depend on the position of polarizer. The characteristic directions and characteristic phase difference do not change by passing of light through the system in the opposite direction and they determine completely the change in polarization of the light by passing through a pile of double-refracting plates. (Author)

Houtermans, F. G.
THE MASER EFFECT IN THE OPTICAL SPECTRAL REGION AND THE POSSIBILITY OF ABSOLUTE NEGATIVE ABSORPTION FOR SEVERAL CASES OF MOLECULAR SPECTRA (LIGHT AVALANCHE). [1963] 9p 27refs
Order from SLA $1.10 63-18148

Trans. of Helvetica Physica Acta (Switzerland) 1960, v. 33, p. 933-940.

DESCRIPTORS: *Masers, *Microwave amplifiers, *Optics, *Molecular spectroscopy, Excitation, Atoms, Photons, Gases, Plasma physics, Lasers.

Mayer, Herbert.
METHOD FROM ALKEMADE-DRUDE: APPROXIMATION FOR THIN LAYERS ($d < 100$ Å). [1963] 10p 21refs
Order from SLA $1.10 63-18171

Trans. of mono. Physik Dünner Schichten, n.p., 1950, pt. I, chap 3, sect. 5.4.b, p. 82-89.

DESCRIPTORS: *Optics, *Surface area, Optical properties, Materials, Polarization, Light, Reflection, Refraction, Refractive index, Measurement, *Electromagnetic wave reflections, Dielectric films.

A general discussion of the Drude method (and its modifications) for the approximation of thin layers ($d < 100$ Å).

Rebane, K. K.
METHOD OF CALCULATING DIELECTRIC COATINGS HAVING A CONTINUOUSLY CHANGING REFRACTIVE INDEX (NORMAL INCIDENCE OF LIGHT). [1963] 16p 13refs
Order from OTS or SLA $1.60 63-18721

Trans. of Tartu U. [Uchenye Zapiski] (Estonian SSR) 1958, v. 62, p. 180-189.

DESCRIPTORS: *Dielectric films, *Refractive index, *Light transmission, Reflection, Mathematical analysis.

Solid State Physics

Albert, Ludwig and Jaenicke, Walther.
ON WHISKER-GROWTH DURING THE OXIDATION OF COPPER, I. (Über das Nadelwachstum bei der Oxydation von Kupfer, I.). [1963] [26p] (foreign text included) 10refs
Order from SLA $2.60 63-18831

Trans. of Zeitschrift für Naturforschung (West Germany) 1959, v. 14a, p. 1040-1046.

DESCRIPTORS: *Copper, Oxidation, *Whiskers (Crystallography), Growth, Foils, Metal films.

Electrolyte copper foils were oxidized at 300°C and 500°C in the region of existence of CuO. The oxide surface was examined electron microscopically according to the carbon-evaporation technique, Bradley (Brit. J. Appl. Phys. 5: 65, 96; 1954). The length distribution of the resulting oxide whiskers was determined stereoscopically for various oxidation sides. It may be represented by the exponential function $dN/Nd\lambda = k e - RL$, which decreases with the whisker-length λ. The quantity k decreases with increasing experiment time. The shape of the distribution may be understood if one assumes that the whisker growth is statistically stopped by inhibition processes. The nucleation rate is set proportional to the mixing produced per time unit in the layer. These mixings occur through mechanical stress during the layer growth. Surface diffusion seems to be rate - determining for the whisker growth. Nucleation rate and growth rule however, have only an insignificant influence on the shape of the length distribution. The exponential decrease of the whisker number with length is determined by the inhibition processes alone. (Author)

Alexander, H. and Haasen, P.
DYNAMIC RECOVERY OF GERMANIUM. [1963] 8p 17refs
Order from SLA $1.10 63-18180

Trans. of Acta Metallurgica (U. S.) 1961, v. 9 [no. 11] p. 1001-1003.

DESCRIPTORS: *Germanium, Recovery, *Metallic crystals, Crystal structure, Crystal lattices, *Crystal lattice defects, Dynamics, Shear stresses.

According to slip line observations the dynamic recovery of germanium (stage III of the stress-strain curve) is due to edge dislocation climb. The initial stress τ_{III} as a function of temperature and rate can be derived from a theory by Weertman. (Author)

Amelinckx, S. and others.
PHYSICAL PROPERTIES OF UO_2 SINGLE CRYSTALS. Quarterly rept. 3, 1 Apr-30 June 62, on Contract 063-61-10 RDB. [1963] [23]p. refs. CEEN R. 2146.
Order from OTS or SLA $2.60 EURAEC-381

Trans. of a rept. from Centre d'Étude de l'Énergie Nucléaire, Mol (Belgium) n. d.

DESCRIPTORS: *Single crystals, *Uranium compounds, Dioxides, Physical properties, *Radiation effects, *Crystal lattices, Density, Oxidation, Thermal conductivity, Electrical conductance, Deformation, Dissociation, *Photoconductivity.

For abstract see Nuclear Science Abstracts 17: 1143, 1963. (See also EURAEC-302)

Antonov-Romanovskii, V. V.
STIMULATION AND QUENCHING BY EXCITING LIGHT IN CRYSTAL PHOSPHORS, tr. by Sergei Shewchuck. Oct 62 [29]p. 6 refs.
Order from OTS or SLA $2.60 UCRL Trans-855 (L)

Trans. of Akademiya Nauk SSSR. Izvestiya. Seriya Fizicheskaya, 1951, v. 15, p. 637-648.

DESCRIPTORS: *Phosphorescent materials, Crystals, Light, Excitation, Quenching (Inhibition), Stimulation.

Bagaev, V. S., Basov, N. G., Vul, B. N., Kopylovskii, B. D., and Krokhin, O. N.
SEMICONDUCTOR QUANTUM GENERATOR USING A GALLIUM ARSENIDE p-n JUNCTION. [1963] [11p] (1 fig omitted) 7refs
Order from OTS or SLA $1.60 63-18622

Trans. of A[kademiya] N[auk] SSSR. Doklady, 1963, v. 150, no. 2, p. 275-278.

DESCRIPTORS: *Semiconductors, Gallium alloys, Arsenides, Cavity resonators, Generators, *Optics, *Infrared radiation, Light, Crystals, Luminescence.

Garber, R. I., Stepina, E. I., and Orlov, A. N.
MECHANISMS OF DISLOCATION MOVEMENT DURING ELASTIC TWINNING [AND] FORMATION OF DEFECTS DURING MOVEMENT OF UNSPLIT SCREW DISLOCATIONS. 19 Aug 63, 31p. 20 refs. JPRS: 20708.
Order from OTS $1.00 63-31566

Trans. of Fizika Tverdogo Tela (USSR) 1963, v. 5, no. 1, p. 211-219, 308-314.

DESCRIPTORS: *Crystall lattice defects, *Calcite, *Twinning (Crystallography), Elasticity, Loading (Mechanics), Interference, *Nucleation, *Hysteresis, Models (Simulations), Dynamics, Density, Numerical analysis.

The mechanisms of formation and change of elastic twins in a calcite crystal were studied by optical interference pattern. The character of distribution of the dislocations along the twin is described in detail. It was shown that the friction forces of twinning dislocations (Peierls forces) in calcite are small, which ensures the possibility of an elastic behavior of the calcite twins. A number of theorems which were advanced in A. M. Kosevich's theoretical studies are in close agreement with the test results. (Garber and Stepina) An analysis of the movement of kinks on screw dislocations was carried out. This made it possible to explain the formation of pinholes and dislocation loops during plastic deformation in one system. (Orlov)

Goerlich, P., Karras, H., Koethe, A., and Kühne, K.
THERMOLUMINESCENCE MEASUREMENTS IN CaF_2 CRYSTALS. [1963] 25p 34refs
Order from SLA $2.60 63-18168

Trans. of Physica Status Solidi (Germany) 1961, v. 1, p. 366-385.

DESCRIPTORS: *Calcium compounds, *Fluorides, *Thermoluminescence, *Luminescence, *Spectroscopy, Impurities, Discoloration, Yttrium, Samarium, Cerium, Europium, *Ytterbium, *Crystal lattice defects.

The thermoluminescence of three types of CaF_2 crystals was measured: natural crystals (found near Ilmenau); synthetic undoped crystals (prepared from natural material, and prepared from synthetic material of highest purity); synthetic doped crystals prepared from synthetic material of highest purity. For each crystal the spectral composition of the luminescence and glow curves of some luminescence bands were measured. The added impurities give rise to characteristic spectra and glow maxima. Energies of trapping levels were calculated for several glow maxima by means of well-known procedures. (Author)

Grimminger, H., Grüninger, H., and Richter, H.
THE STRUCTURE OF AMORPHOUS SELENIUM. [1963] 2p
Order from ATS $3.00 ATS-51Q71G

Trans. of Naturwissenschaften (West Germany) 1955, v. 42, p. 256ff.

DESCRIPTORS: *Selenium, Glass, Molecular structure.

Gürtler, W.
SURFACE PROBLEMS OF THE CHEMICAL BEHAVIOR OF METALLIC MATERIALS. [1963] [1p]
Order from SLA $1.10 63-18213

Partial trans. (summary only) of Metalloberfläche (West Germany) 1949, v. 3 [no. 7] p. A113-A141.

DESCRIPTORS: *Metallic crystals, Single crystals, Crystal lattices, Alloys, Molecular structure, Chemical reactions

Hauffe, Karl.
CONTRIBUTION ON THE PHOTOELECTRIC CONDUCTIVITY OF ZINC OXIDE. [1963] 10p 6refs
Order from SLA $1.10 63-18728

Trans. of [Zeitschrift zür Anorganische und Allgemeine Chemie] (East Germany) 1962, v. 316, no. 3/4, p. 190-196.

DESCRIPTORS: *Zinc compounds, *Oxides, *Photoconductivity, Crystal lattice defects, Crystal lattices, Lithium compounds.

The photoelectric conductivity of ZnO is caused by a photochemical reaction between the electron hole pairs and the surface oxygen in which reaction the free electrons are probably responsible as the essential charge carriers. The crystal defects caused by grinding ZnO have a considerable influence on the decrease of the photoelectric conductivity. The ratio of the photoelectric conductivity to the dark conductivity is considerably increased by an addition of .04 mole per cent of Li_2O to ZnO compared to that of pure ZnO. An interpretation of the results of the experiments is submitted for discussion. (Author)

Heiland, G.
FABRICATION AND PROPERTIES OF CLEAN SEMICONDUCTOR SURFACES. [1963] [106p] 122refs
Order from SLA $9.10 63-18716

Trans. of Fortschritte der Physik (East Germany) 1961, v. 9, p. 393-454.
Another trans. is available from SLA $10.10 as 63-10771 [1962] 127p.

DESCRIPTORS: Cleaning, *Semiconductors, Electrical conductance, Vacuum apparatus, Hall effect, Diffraction analysis, Surface properties, Crystal lattices, Space charges, Ion bombardment, Adsorption, Work functions, Tables, *Germanium, *Silicon, Oxygen.

Kimura, Nobuyoshi.
AUTOMATIC DESIGN OF MULTILAYER DIELECTRIC FILMS, I, tr. by Shingo Tsunekane. 1963 19p 4refs
Technical Trans. 1085.
Order from NRCC $1.00 NRCC C-4500

Trans. of Oyo Butsuri (Japan) 1962, v. 31, no. 9, p. 739-745.

DESCRIPTORS: *Dielectric films, Synthesis, Refractive index, *Optical properties, Design, Numerical analysis, High-pass filters, Band-pass filters

Likhtman and Maslennikov, B. M.
ON THE CRYSTALLIZATION OF A METALLIC FUSION. [1963] 3p (figs omitted) 2refs
Order from OTS or SLA $1.10 63-18208

Trans. of Akademiya Nauk SSSR. Doklady, 1949, v. 67 [no. 1] p. 93-[95].

DESCRIPTORS: *Crystallization, *Fused materials, *Lead, Atomic structure, Nuclei, Crystal structure, Recrystallization, Single crystals, Melting.

Nadzhakov, G. and Andreichin, R.
PHOTO-VOLTAIC EFFECT IN POLYCRYSTALLINE SULPHUR UNDER TRANSVERSE ILLUMINATION. [1963] 5p (figs omitted) 5refs
Order from SLA $1.10 63-18946

Trans. of [Bulgarska Akademiya na Naukite. Doklady 1953, v. 5, no. 2/3, p. 9-12].

DESCRIPTORS: Illumination, *Sulfur, *Crystallization, Photoelectric effect, Photoelectric cells (Semiconductor)

The photo-potential difference obtained with sulphur photocells under completely uniform illumination of both electrodes is in essence the contact potential difference between the electrodes. Under illumination the sulphur becomes a conductor, creating the necessary conductive medium for its discovery. (Author)

Reuter, Bertold, Weber, Rudolf, and Jaskowsky, Jorg.
OXIDE SYSTEMS WITH TRANSITION METALS IN DIFFERENT OXIDATION STATES AND THEIR ELECTRIC PROPERTIES. I. THE SYSTEM VO-$LiVO_2$. [1963] 17p. 26 refs.
Order from SLA $1.60 63-18153

Trans. of Zeitschrift für Elektrochemie (West Germany) 1962, v. 66, no. 10, p. 832-838.

DESCRIPTORS: *Lithium compounds, *Vanadates, Transition elements, *Vanadium compounds, Manganese compounds, Cobalt compounds, Magnesium compounds, *Phase studies, Chemical analysis, X-ray diffraction analysis, Resistance (Electrical), *Thermoelectricity.

Sintered specimens of compounds of the general formula $Li_xV_{1-x}O$, and for comparison those of the general formula VO_{1xn}, were studied by means of chemical analysis, X-ray methods, resistance measurements, and thermal EMF measurements. The $Li_x V_{1-x}O$ system was found to be crystallographically similar to the systems $Li_x Mn_{1-x}O$, $Li_xCo_{1-x}O$, and $Li_xNi_{1-x}O$. The addition of Li to the system has little influence on its resistance and thermal EMF. The temperature dependence of resistance in the system is very small. A model is proposed to explain quantitatively the properties of VO, $Li_xV_{1-x}O$, NiO, $Li_xNi_{1-x}O$, and $Li_xMg_{1-x}V_2O_4$.

Seckelmann, R.
MASERS. [1962] [147]p. 5 refs. AERDL T-1656.
Order from OTS or SLA $11.00 63-13408

Trans. of Heinrich-Hertz-Institut fur Schwingungsforschung, Berlin. Technischer Bericht (West Germany) 1960, no. 36, 147p.

DESCRIPTORS: *Masers, *Quantum mechanics, Mass-energy relation, Mass spectrum, Electrons, Atoms, Integral transforms, Blackbody radiation, Electromagnetic fields, Atomic energy levels, *Paramagnetism, Paramagnetic resonance, Bandwidth, Circuits, Equations, *Microwave amplifiers, Electron transitions.

The present paper is designed to present a survey of the concepts and ideas which are encountered in the treatment of masers. To a great extent these concepts are taken from quantum mechanics and the engineer usually is not at all or only little familiar with them. If he wants to work in this field, then he always has to take a step backward in order to find something which is familiar to him and which will help him to understand the unfamiliar. To change this step backward into a step forward, is the idea behind this report. Details, as for example constructional arrangement of masers, measuring arrangements, amplification achieved, band widths, noise numbers, entrance levels, etc. are not considered. (Author)

Sheinkman, M. K.
ON A NEW POSSIBLE MECHANISM OF RECOMBINATION IN SEMICONDUCTORS. 19 June 63 [6]p. 1 ref. FTD-TT-63-507.
Order from OTS or SLA $1.10 63-23636

Unedited rough draft trans. of Ukrayins'kyi Fizychnyi Zhurnal (USSR) 1962, v. 7, no. 12, p. 1364-1365.

DESCRIPTORS: *Semiconductors, *Photoconductivity, *Thermoelectricity, Electrons, Energy, Emissivity, Theory.

The proposed radiationless recombination mechanism is based on the supposition that holes from the valence zone are trapped on recombination centers which, in the absence of radiation, are normally filled with electrons. The energy liberated is imparted to one or more electrons which are ejected into the conductance zone. The charge on a recombination center may thus become +2e, +3e, or more. Several photoelectric and thermoelectric phenomena are discussed in terms of this mechanism.

Smekal, Adolf.
ELECTROPHYSICS OF SOLID SUBSTANCES, I. [1963] 38p (fig omitted) 177refs
Order from SLA $3.60 63-18567

Trans. of [Physik in Regelmässigen Berichten] (Germany) 1936, v. 4, no. 1, p. 17-33.

DESCRIPTORS: *Solids, *Irons, *Conductors, Crystal structure, Crystal lattices, Surfaces, Crystal lattice defects, Glass, Temperature, Transport properties, Thermal conductivity, Chemical bonds.

Theoretical Physics

Feinberg, E. L.
ON THE "SPECIAL CHARACTER" OF ELECTRODYNAMIC POTENTIALS IN QUANTUM MECHANICS (Ob "Osoboi Roli" Electromagnitnykh Potentsialov v Kvantovoi Mekhanike). 24p 16 refs DTC-20.
Order from OTS, ETC or DTC $0.90 63-26581

Trans. of #Uspekhi Fizicheskikh Nauk (USSR) 1962, v. 78 no. 1, p. 53-64.

DESCRIPTORS: Electrochemistry, *Electric potential, *Quantum mechanics, Theory.

Fok, V. A.
ON THE ROLE OF THE PRINCIPLES OF RELATIVITY AND EQUIVALENCE IN EINSTEIN'S THEORY OF GRAVITATION. 17p DTC-26.
Order from OTS, ETC or DTC $0.80 63-26960

Unedited draft trans. of Voprosy Filosofii (USSR) 1961, v. 15 no. ? p. 45-52.

DESCRIPTORS: *Relativity theory, *Gravity.

Landau, L. D. and Lifshits, E. M.
THE CLASSICAL THEORY OF FIELDS, 2 ED REV., tr. by M. Hamermesh. 1962, 1v.
Order from PP

Trans. of mono. [Teoriya Polya, 2 ed rev., Moscow, 1960].

DESCRIPTORS: *Field theory.

Thermodynamics

Boehm, J.
CALCULATION OF THE HEAT TRANSFER COEFFICIENT FOR INDUSTRIAL SODIUM ALUMINATE SOLUTIONS. [1963] 9p.
Order from ATS $11.85 ATS-74Q70F

Trans. of Chaleur et Ind[ustrie] (France) 1955 [v. 36] no. 356, p. 95-100.

DESCRIPTORS: Solutions, *Aluminates, *Sodium compounds, *Heat transfer.

Sokolik, A. S., Voinov, A. N., and Sviridov, Yu. B.
INFLUENCE OF CHEMICAL AND TURBULENCE FACTORS ON THE COMBUSTION PROCESS UNDER ENGINE OPERATING CONDITIONS. [1963] 5p
Order from OTS or SLA $1.10 63-18216

Partial trans. (conclusions) of Akad[emiya] Nauk SSSR. Otdel[enie] Tekh[nicheskikh] Nauk. Izvestiya, 1949 [no. 12] p. 1848-1873.

DESCRIPTORS: *Combustion, Combustion chambers, Thermodynamics, Combustion chamber gases, Ignition, Flames, *Turbulence, Velocity.

Vichnievski, R.
ANALOG MODELS AND HEAT TRANSFER. [1963] 30p (refs omitted).
Order from SLA $2.60 63-20196

Trans. of Revue del'Institut Français du Pétrole [et Annales des Combustibles Liquides] 1962, v. 17 [no. 4] p. 537-557.

DESCRIPTORS: *Heat transfer, *Analog systems, Analog computers, Differential equations, *Mathematical models, Electrical networks, Temperature, Electric potential, Electric currents, Mathematical analysis.

The article outlines various techniques for analog representation of heat transfer phenomena. The examples most often found in the literature deal mainly with steady-state and transient heat transfer by conduction. The two pertinent techniques--continuous conductors and resistance networks--each have their place in these studies, although the network technique by its very nature has a much broader field of application. Analog methods are beginning to be utilized for studying heat transfer between fluids in flow. In the field of radiation, theoretical studies permit the expectation of very interesting potentialities for these analog techniques making use of modern mathematical concepts. (Author)

RESEARCH METHODS, TECHNIQUES AND EQUIPMENT

ACTIVITIES OF THE ACADEMY OF SCIENCES UKRAINIAN SSR. 12 Sep 63, 49p. JPRS: 21058.
Order from OTS $1.50 63-31753

Trans. of Ukrayins'kyi Botanichnyi Zhurnal (USSR) 1963, v. 20, no. 2, p. 115-121; and from Akademiya Nauk URSR, Kiev. Dopovidi, 1963, no. 5 [p. 665-678]; no. 9 [p. 1253-1259].

DESCRIPTORS: *Scientific organizations, *Scientific research, Industrial research, Reports, Mechanical engineering, Plants (Botany).

Contents:
The 1962 achievements in science and technology in the Ukrainian SSR
The scientific-research performance of the Ukrainian Institute of Mechanical Engineering
The performance of the Institute of Botany of the Ukrainian Academy of Science in 1962, by V. M. Parshikov.

NEWS OF THE ACADEMY OF SCIENCES USSR, DEPARTMENT OF TECHNICAL SCIENCES, TECHNICAL CYBERNETICS, 1963, NO. 3. 16 Sep 63, 307p. JPRS: 21100.
Order from OTS $5.00 63-31772

Trans. of Akademiya Nauk SSSR. Otdelenie Tekhnicheskikh Nauk. Izvestiya: Tekhnicheskaya Kibernetika, 1963, no. 3, p. 1-208.

DESCRIPTORS: *Cybernetics, Automation, Synthesis, Relays, Digital systems, Linear systems, *Control systems, Reliability (Electronics), Optical systems, Filters (Electromagnetic wave), Signals, Oils, Production, Control theory, Electronic scanners, Adaptive control systems, Nonlinear systems, Couplings, Analog computers, Computer logic, Time-lag theory, Integrators, Graphic analysis, Differential equations, Transients, Electrical networks, Data transmission systems, Design.

Contents:
The development of cybernetics is the concern of scientists from various specialities, by M. V. Keldysh
The principle trends in the development of engineering cybernetics, by V. A. Trapeznikov
The design of relay devices and terminal automatic equipment modules, by M. A. Gavrilov
On the optimization of the structure of complex resolving systems, by B. S. Fleishman
Reliability indices for stationary and nonstationary linear automatic control systems, by A. I. Ressin
On the study of intermittent failures of engineering devices, by G. V. Druzhinin
On the quantitative evaluation of the effect of operating conditions on the reliability of automatic devices, by A. V. Mayorov and L. V. Vasil'ev
The passage of the useful signal and the background signal through radially slotted shutters of systems for

indication of luminous objects, by V. D. Andrev
The design of an optimal filter with incomplete information on the statistical properties of the signals, by I. B. Chelpanov
The synthesis of multichannel sampling systems with finite time of observation, by V. Ya. Katkovnik and R. A. Poluektov
Certain problems in oil well control theory, by M. V. Meerov and E. S. Salimzhanov
The behaviour of digital automatic scan systems subjected to random noise, by G. A. Medvedev
Some questions in the theory of adaptive automatic control systems, by V. L. Erman and others
Intermittent-action exteremal systems with adaptive operation, by V. P. Tarasenko
On the stability of automatic switching systems "in the large", by Ya. Z. Tsypkin
On the synthesis of cross correcting couplings in multidimensional automatic control systems, by V. T. Morozovskii
The synthesis of combined approximately-invariant systems with limitation of the coordinates and a statistically given input signal, by E. G. Uderman
On the use of additional couplings in a linear system, by B. M. Menskii
The solution of a particular logic problem on an analog computer, by G. A. Bryakalov and others
A study of automatic control systems with lag using nomograms of the dynamic elements, by B. S. Yakovlev
On the solution of the discrete equations resulting from the digital integration algorithms, by A. R. Garbuzov
Graphical methods for the determination of the coefficients of the harmonic linearization of nonlinearities, by A. I. Drogachenko
On the application of the linear integral area evaluator to certain nonmonotonic processes, by A. A. Voronov
Design problems of networks for the transmission of information, by V. N. Roginskii

NLL TRANSLATIONS BULLETIN, 1963, VOL. 5, NO. 8, P. 683-780. Aug 63, 1v.
Order from HMSO $0.77, $9.86/year

This bulletin includes books received from the USSR, translations available on loan from National Lending Library for Science and Technology and trans. of Mekhanizatsiya i Avtomatizatsiya Proizvodstva (USSR) 1962 [v. 16] no. 12, p. 25-28; ##Akademiya] N[auk] SSSR. Vestnik, 1963 [v. 33] no. 2, p. 38-43; Akad[emiya] Stroitel'stva i Arkhitektury SSSR. Izv[estiya] 1962, v. 4, no. 4, p. 3-8; Ekonomicheskaya Gazeta (USSR) 1963 [no. 17(90)] p. 10; ##Vestnik Elektropromyshlennosti (USSR) 1963 [v. 34] no. 3, p. 1-3.
Other translations are available from OTS $0.50 ea. as 63-21479, JPRS-18497, 2 Apr 63 [9]p. and 63-31064, JPRS-19722, 18 June 63 [17]p.

DESCRIPTORS: *Translations, Reports, *Bibliographies, Scientific research, *Automation, Mechanical engineering, Commerce, Handling, *High temperature research, *Reinforced concrete, *Welding, Economics, *Mining equipment, Electrical equipment.

Contents:
Some questions of mechanization in unit-load stores of mechanical engineering works, by M. A. Preobrazhenskii
##Problems of high-temperature physics, by V. A. Kirillin
Basic problems in the theory of reinforced concrete in the next twenty years, by A. A. Gvozdev
Economical welding method, by I. Karev
##Electrical equipment for mines in serial production, by V. A. Khorunshii and F. N. Zikeev.

SCIENTIFIC AND TECHNICAL RESEARCH. PLAN [NO. 4] 1962-65. 23 Sep 63, 218p JPRS: 21182.
Order from OTS $3.50 63-31810

Trans. of mono. [La Recherche Scientifique et Technique. Plan (no. 4) 1962-1965] Paris, 1962, p. 3-5, 12-138, 153-155 (biochemistry only) 216-240, 286-365,

DESCRIPTORS: *Scientific research, *Industrial research, *France, *Economics, *Research program administration, Scientific organizations, Scientific personnel, Budgets, Geophysics, Oceanology.

Topics include: Charter of the commission for Scientific and Technical Research; general considerations on the state of research in France, generalities about the definition of a national research effort; the objectives of the different forms of research and their consequences, the place of priority acquired by the development of scientific research in government business, the conditions of preparing the report of the plan, schematic of the organization of research in France, intellectual property; the general objectives of research, exact sciences, the sciences of earth and sea, general research services, technical research and the major research subjects within different economic sectors; ways and means, research personnel, the structural question and problems of organization, the question of financing; and general recapitulation of the investment credit.

SOVIET SCIENTIFIC ACTIVITIES AND PERSONALITIES. 14 Aug 63, 29p. JPRS: 20639.
Order from OTS $1.00 63-31529

Trans. of Akademiya Nauk SSSR. Vestnik, 1962 [v. 32] no. 8, p. 110-112; 1963 [v. 33] no. 5, p. 3-6, 101-102; no. 6, p. 95-96, 99-102, 113-114; Akademiya Nauk SSSR. Sibirskoe Otdelenie. Izvestiya, 1963, no. 3, p. 163-165.

DESCRIPTORS: *Scientific research, *Scientific personnel, *Physicists, *Mathematicians, *Chemists, *Engineering personnel, *Awards, *Scientific organizations, *Plants (Botany), *Astronomy, *Economics,

Contents:
60th birthday of academician M. A. Leontovich and in honor of academician B. N. Petrov
Scientists: 1963 Lenin prize winners, by M. V. Keldish
Boris Vladimirovich Ptitsyn, by L. M. Volshtein
In honor of academician G. I. Petrov
On the activity of the Botanical Institute imeni V. L. Komarov
Plenum of the astronomical council, by N. P. Erpylev
In honor of academician A. N. Kolmogorov
In honor of academician B. A. Vvedenskii
On the work of the Institute of Economics.

Ambartsumyan, V.
NEW MEASURES TO EXPAND EXCHANGE OF SCIENTIFIC INFORMATION NEEDED. 7 May 63, 5p. JPRS: 19075.
Order from OTS $0.50 63-21763

Trans. from Izvestiya (USSR) 1963, 26 Feb, p. 3.

DESCRIPTORS: *Scientific research, Collaboration.

Benoit, J. R.
STANDARDIZATION OF SETS OF WEIGHTS. [1963] 57p. 5 refs.
Order from SLA $5.60 63-14704

Trans. of Annales des Poids et Mesures [sic] 1907, v. 13, p. 1-48.

DESCRIPTORS: Standardization, *Weights (Analytical)

Berg, A., Bernshtein, N. and others.
CYBERNETICS (Kibernetika). 9 Aug 63, 49p. 113 refs. JPRS: 20574.
Order from OTS $1.25 63-31492

Trans. of mono. Filosofskaya Entsiklopediya (Encyclopedia of Philosophy) v. 2, Moscow, 1962, p. 495-506.

DESCRIPTORS: *Cybernetics, Control systems, Philosophy.

Berg, A. and Siforov, V.
REFLECTIONS ON SOVIET SCIENTIFIC PROGRESS. 19 Aug 63, 5p. JPRS: 20687.
Order from OTS $0.50 63-31557

Trans. from Pravda, Moscow (USSR) 1963, 18 June, p. 3.

DESCRIPTORS: *Scientific research, Scientific personnel, Education, *Automation, Cybernetics, Communism.

Reassurance is given that Soviet scientists are working for the victory of communism and that one of their recent endeavors, automation, cannot replace man.

Nikolaev, A.
VOYAGE ON SPACE SHIP VOSTOK-3. 19 Sep 63, 4p JPRS: 21146.
Order from OTS $0.50 63-31791

Trans. of Kryl'ya Rodiny (USSR) 1963 [v. 14] no. 5, p. 3-5.

DESCRIPTORS: *Space flight, *Spacecraft, *Astronauts Training, Exercise, Weightlessness.

Shapiro, S. I. and Umanskii, L. I.
USING INFORMATION THEORY FOR STUDYING HUMAN ABILITIES. 16 Aug 63, 31p. 15 refs. JPRS: 20680.
Order from OTS $1.00 63-31552

Trans. of #Voprosy Psikhologii (USSR) 1963 [v. 9] no. 2, p. 75-90.

DESCRIPTORS: *Reasoning, *Information theory, *Aptitude tests, *Intelligence tests, *Psychometrics, Personnel management.

The study is an attempt to use information theory in certain issues relating to the analysis of human abilities, and to throw light on one of the procedures in the theory as applied to thought processes involved in the solution of a geometrical problem and in the planning of management activities. The suggested procedure is based on the fact that the Shannon law of the conductivity of information channels, which holds also for brain channels, can be used for bringing out in bits the flow of information in the solution of psychological tasks. The latter in that case are regarded as those involving the choice of the shortest route in a maze. An analysis was made of written assignments in managerial planning and a comparison between the quantitative data obtained and the psychological characteristics of the subjects. (Author)

SOCIAL SCIENCES

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 65. 14 Aug 63, 30p. JPRS: 20644.
Order from OTS $1.00 63-31532

Trans. of 11 selected articles from 1963 issues of 8 Russian newspapers.

DESCRIPTORS: *Industrial production, *Economics, Construction, Data, Storage, Automation, Industrial equipment, Industrial relations, Engineering personnel, Management engineering.

Contents:
Data on the most important projects
Better equipment storage facilities required in Azerbaidzhan, by E. Yakovlev
Specialization in the machine building and electrical engineering industries in the central Asian sovnarkhoz
About capital construction in Kazakh SSR (partial translation)
Raising technical-economic indicators in Kazakh SSR
Better use of equipment called for in Krasnodarskii Kray, by A. Krivov
Specialization: its development and scope, by D. Glagolev
Conditions improve at Riga Sarkana Zvaigzne plant
About the Lyubertsi design bureau, by G. Grabchenko
Advertisement: help wanted
Party-economic activists re-examine construction goals in Soviet Lithuania (excerpts).

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 67. 30 Aug 63, 33p. JPRS: 20853.
Order from OTS $1.00 63-31643

Trans. of Byulleten' Tekhniko-Ekonomicheskoi Informatsii (USSR) 1963, no. 5, p. 67-72; Nauchno-Tekhnicheskie Obshchestva SSSR, 1963 [v. 5] no. 6, p. 10; and 17 selected articles from 1963 issues of 8 Russian newspapers.

DESCRIPTORS: *Industrial production, *Economics, Industrial plants, Machine shop practice, Awards, Industrial research, Industrial equipment, Machines, Presses (Machinery), Personnel management, Electric motors.

Contents:
Concerning the development and introduction of comprehensive techniques into machine building, by G. A. Turkov
Comprehensive techniques at machine building enterprises of the Nizhne-Volzhskii sovnarkhoz, by Yu. I. Il'yinov
List of recipients of the All-Union Council of Scientific Technical Societies certificates of merit
Streamlining and growth of economic activity in the Severo-Kavkazskii sovnarkhoz, by V. Ivanov
Industrial centers of Eastern Siberia, by G. Menchinov
The Yuzhno-Ural'skii economic region, by G. Menchinov
The Zapadno-Ural'skii economic region, by L. Divnogortsev
Plant specialization in Tadzhikistan
Kazakhstan industrial production in June 1963
Test plant advertises miscellaneous items for sale
Experimental machine plant has heel shaping machine for sale
Lithuanian plant accepts orders for coil winding machines, solenoid presses and drafting machines
Granulating machine for sale
Perforating press and thread-cutting machine for sale
Want ad for beam crane
Pump and storage station for sale
Plant director accused of corruption
Presidium of the supreme Soviet of the Turkmen SSR awards certificates of merit
Electric motors not delivered on time
Machinery plant shop chief.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 68. 4 Sep 63, 13p. JPRS: 20910.
Order from OTS $0.50 63-31669

Trans. of Mekhanizatsiya i Avtomatizatsiya Proizvodstva (USSR) 1963 [v. 17, no. 7] p. 53-54; Novye Tovary (USSR) 1963, no. 6, p. 6-7.

DESCRIPTORS: *Industrial production, *Economics, Textile industry, Industrial equipment, Machines.

Contents:
Reorganization of the textile industry
New industrial machine and equipment development in Belorussian SSR, by L. I. Romanov.

USSR INDUSTRIAL DEVELOPMENT: SOVIET REGIONAL ECONOMY NO. 69. 5 Sep 63, 41p. JPRS: 20919.
Order from OTS $1.25 63-31677

Trans. of Planovoe Khozyaistvo (USSR) 1963 [v. 40] no. 7, p. 54-75.

DESCRIPTORS: *Industrial production, *Economics, Management engineering, Labor, Personnel management, Industrial equipment, Effectiveness, Machines.

Contents:
Use reserves of Moscow enterprises more fully, by V. Pavlov
Regional party organizations in the campaign for finding reserves, by L. Drozd
What analysis has shown, by K. Kogan
Utilize equipment fully in machine building, by A. Sidorov.

Antonov, N. P. and Kochergin, A. N.
THE NATURE OF THINKING AND THE PROBLEM OF MODELING IT. 30 July 63, 14p. JPRS: 20401.
Order from OTS $0.50 63-31410

Trans. of Nauchnye Doklady Vysshei Shkoly. Filosofskie Nauki (USSR) 1963 [v. 6] no. 2, p. 37-47.

DESCRIPTORS: *Social sciences, *Cybernetics, Machines, Computers, Brain, Models (Simulations), Reasoning, Memory, Labor, Communism.

This article discusses the possibilities of modeling through the facilities of technical cybernetics the properties of living matter and the conscience, reasoning activity of man, particularly modeling of the brain and its functions. Questions considered are: 1) can machines think; 2) can thinking be modeled; 3) can a living thinking creation be devised artificially. The article concludes that machines do not think, but can model various psychic processes, including also thinking. Thinking creatures must have an anatomo-physiological organization which enables them to labor and in the process of laboring to apprehend the world, to develop their thoughts and science. Apart from social-laboring activity and the active transformation of nature, apart from the social form of movement of matter, the appearance and development of thinking, reasoning creatures are impossible. Consciousness is a specifically human form of reflection of the objective world, arising on the basis of the social-laboring activity of men.

Perepelova, T. M.
THE FORMATION OF A DIALECTIC-MATERIALISTIC WORLD OUTLOOK IN STUDENTS TAKING CHEMISTRY COURSES. 14 Aug 63, 13p. JPRS: 20638.
Order from OTS $0.50 63-31528

Trans. of Khimiya v Shkole (USSR) 1963 [v. 18] no. 3, p. 55-61.

DESCRIPTORS: *Communism, *Students, *Chemistry, *Education, Reasoning.

Provorov, K. L.
THE NOVOSIBIRSK ENGINEERING INSTITUTE OF GEODESY, AERIAL SURVEYING AND CARTOGRAPHY CELEBRATES ITS THIRTIETH ANNIVERSARY. 17 Sep 63, 8p JPRS: 21118.
Order from OTS $0.50 63-31776

Trans. of Geodeziya i Kartografiya (USSR) 1963, no. 3, p. 8-14.

DESCRIPTORS: *Universities, *Education, *Geodesics, Airborne, Surveying, Mapping, Instructors, Students.

BOOK REVIEWS

The following book reviews can be ordered by number from OTS or SLA for $1.10 each. Each review includes, in addition to the material shown, a detailed statement of the coverage of the book and detailed table of contents.

BR-GER/6314
Nasov, N. A., G. I. Zyupko, and V. I. Petlyuk
NAVIGATION OF A SINGLE-SEAT AIRCRAFT. (Vozhdeniye odnomestnogo samoleta). Moscow, 1956, 247p. Translator not mentioned.
Navigation auf einsitzegne Flugzeugen. [Berlin] Verlag des Ministeriums für Nationale Verteidigung [1959]. 320p. No. of copies printed not given. Contributors not mentioned.

BR-GER/6316
Wassiljew, G. S.[G.S. Vasil'yev], N. M. Lyssenko [N.M. Lysenko], and E. B. Mikirtumow [E. B. Mikirtumov]
AERODYNAMICS AND FLIGHT MECHANICS AT NEAR-SONIC VELOCITIES; A BRIEF PRESENTATION IN AN EASILY COMPREHENSIBLE FORM (Aerodynamik and Flugmechanik bei schallnahen Geschwindigkeiten; eine kurzgefasste Darstellung in leichtverständlicher Form. [Berlin]. Verlag des Ministeriums für Nationale Verteidigung 21959] 331p. Transl. of AERODYNAMIC CHARACTERISTICS OF JET FIGHTERS. (Aerodinamicheskiye osobennosti reaktivnykh samoletov-istrebiteley). Moscow, 1956. 264p. Errata slip inserted.

BR-SOV/6317
Trifonov, Dmitriy Nikolayevich
THE PROBLEM OF RARE-EARTH ELEMENTS. (Problema redkikh zemel') Moscow, Gosatomizdat, 1962. 219p. 10,200 copies printed.

BR-SOV-6320
Pogorelov, Aleksey Vasil'yevich
POST-BUCKLING BEHAVIOR OF CYLINDRICAL SHELLS. PT. 3: TORSION (Tsilindricheskiye obolochki pri zakriticheskikh deformatsiyakh. [ch.] 3: Krucheniye). Khar'kov, Izd-vo Khar'kovskogo univ., 1962. 71p. 3000 copies printed.

BR-GER/6325
Unger, Hans
POCKET MANUAL ON CIVIL DEFENSE (Taschenbuch Luftschutz) pt. 2. Leipzig, B. G. Teubner, 1962. 546p. No. of copies printed not given.

BR-SOV/6326
Romanova, Mariya Andreyevna
AERIAL DETERMINATION OF THE COMPOSITION OF SAND DEPOSITS BASED ON THEIR SPECTRAL BRIGHTNESS; MEASURING TECHNIQUES AND GEOLOGICAL INTERPRETATION (Opredeleniye tipovogo sostava peschanykh otlozheniy s vozdukha po ikh spektral'noy yarkosti; metody izmereniya i geologicheskaya interpretatsiya). Leningrad, Gostoptekhizdat, 1962. 246p. Errata slip inserted. 2000 copies printed.

BR-SOV/6328
Presnov, Viktor Alekseyevich and others.
FUNDAMENTALS OF BONDING TECHNOLOGY AND PHYSICS (Osnovy tekhniki i fiziki spaya) Tomsk, Izd-vo Tomskogo univ., 1961. 233p. 3000 copies printed.

BR-SOV/6329
Oyks, Grigoriy Naumovich and others.
NEW TECHNOLOGY OF MELTING BALL-BEARING STEEL (Novaya tekhnologiya vyplavki sharikopodshipnikovoy stali). Moskva, Metallurgizdat, 1962. 124p. Errata slip inserted. 2250 copies printed.

BR-SOV/6330
Paton, B. Ye.,
TECHNOLOGY OF ELECTRIC FUSION WELDING (Tekhnologiya elektricheskoy svarki plavleniyem). Moskva, Mashgiz (Southern Dept.), 1962. 663p. Errata slip inserted. 25,000 copies printed.

BR-SOV/6331
Shaposhnikov, David Yefimovich
HOT PRESS FORGING: FORGE SHOP PRACTICES AT THE MOSCOW SMALL AUTOMOBILE PLANT (Izgotovleniye pokovok na goryacheshtampovochnykh pressakh: opyt kuznechnogo tsekha Moskovskogo zavoda malolitrazhnykh avtomobiley) Moscow, Mashgiz, 1962. 178p. Errata slip inserted. 5000 copies printed.

BR-RUM/6332
Irimescu, Paul
REMOTE CONTROL IN MILITARY TECHNIQUES (Telecomanda in technica militara) [Bucharest] Editura militara [1962]. 162p. (Series: Noutati tehnico-stiintifice). No. of copies printed not given.

BR-SOV/6333
Bochkarev, V. V., ed.
TECHNIQUES FOR THE MEASUREMENT OF RADIOACTIVE PREPARATIONS; COLLECTION OF ARTICLES (Tekhnika izmereniye radioaktivnykh preparatov; sbornik statey) Moscow, Gosatomizdat, 1962. 4600 copies printed.

BR-CHICOM/6334
METHODS OF RARE-METAL ANALYSIS (Hsi Yu Chin Shu Fen Hsi Fa) Peking, Yeh chin kung yeh ch'u pan she, 1958, 210p., 16,000 copies printed.

BR-CHICOM-6335
Ch'en, Nien-I
THE PHYSICAL CHEMISTRY OF ALUMINA PRODUCTION (Yang Hua Lu Sheng Ch'an Ti Wu Li Hua Hsüeh) Shanghai, Shang-hai k'o hsüeh chi shu ch'u pan she, 1962, 127p., 1200 copies printed.

BR-GER/6340
Hoffmann, Horst
MAN IN SPACE; REPORT ON MANNED SPACEFLIGHT (Der Mensch im All; eine Reportage uber den bemannten Raumflug, aus Dokumenten und Materialien) Berlin, Verlag Kultur und Fortschritt, 1961. 132p. No. of copies printed not given.

TRANSLATIONS IN PROCESS

[NO ENGLISH TITLE GIVEN].
Cover-to-cover trans. in process of Teplofizika Vysokikh Temperatur (USSR).
To be published by Infosearch Ltd., 207 Brondesbury Park, London NW2, England.

PAPERS ON THE WORKING MEETING ON THE MOSSBAUER EFFECT, DUBNA, 2-6 JULY 62 (Materialy Rabochego Soveshchaniya po Effekty Messbauera). [Joint Inst. for Nuclear Research, Dubna] (USSR) P-1231, 1963, 195p.
To be published by CB.

[PROBLEMS OF PHILOSOPHY, 1963, VOL. 17, NO. 8: SELECTED ARTICLES].
Voprosy Filosofii (USSR) 1963, v. 17, no. 8, p. 74-83, 92-103, 104-114, 143-154.

RADIOBIOLOGY, 1963, VOL. III, NO. 4, P. 489-632.
Radiobiologiya (USSR) 1963, v. 8, no. 4, p. 489-632.

TASHKENT CONFERENCE ON THE PEACEFUL USES OF ATOMIC ENERGY. PROCEEDINGS, VOL. I.
Mono. Tashkentskaya Konferentsiya po Mirnomu Ispol'zovaniyu Atomnoi Energii. Trudy, v. 1, 1961, 411p.

TASHKENT CONFERENCE ON THE PEACEFUL USES OF ATOMIC ENERGY. PROCEEDINGS, VOL. II.
Mono. Tashkentskaya Konferentsiya po Mirnomu Ispol'zovaniyu Atomnoi Energii. Trudy, v. 2, 1960, 450p.

Borisenko, A. I.
ENGINE GAS DYNAMICS.
Mono. Gazovaya Dinamika Dvigatelei, Moscow, 1962, 793p.

Friedel, J.
[NO ENGLISH TITLE GIVEN] (Defauts Ponctuels et Irradiation). Low Temperature Physics lectures delivered at Les Houches 1961 Summer School of Theoretical Physics, U. of Grenoble.
Unidentified mono. pub. 1962, p. 551-628.
To be published by GB.

Frossling, N.
THE EVAPORATION OF FALLING DROPS.
Beit[räge zur] Geophys[ik] (East Germany) 1938, v. 52, p. 170-216.

Goryunova, N. A.
THE CHEMISTRY OF DIAMOND-LIKE SEMICONDUCTORS.
Mono. Khimiya Almazopodobnykh Poluprovodnikov [Leningrad] 1963, 222p.
To be published by Scripta Technica, Inc., 1000 Vermont Ave., N. W., Washington, D. C.

Guizerix, J., Grandclement, G. and others.
MEASUREMENTS OF FLOWS EFFECTED IN FRANCES USING RADIOACTIVE TRACERS BY THE INTEGRATION METHOD.
Symp[osium on the] Application of Radioisotopes in Hydrology, Tokyo, 5-9 Mar 63. 33p.
(IAEA preprint SM-38/9).

Ibragimov, F. I. and Ibragimova, V. S.
THE BASIC MEDICINAL REMEDIES OF CHINESE MEDICINE.
Mono. Osnovnye Lekarstvennye Sredstva Kitaiskoi Meditsiny, Moscow, 1960, chaps. 1-6.

Kvasnikov, A. V.
OPERATION OF HEAT ENGINES.
Mono. (?) Rabochie Protsessy Teplovykh Dvigatelei, Moscow, 1962, p. 5-47.

Letavet, A. A. and Farfel', V. S. eds.
DATA FROM THE CONFERENCE DEALING IN METHODS OF PHYSIOLOGICAL INVESTIGATIONS OF HUMAN BEINGS.
Mono. (?) Materialy Konferentsii po Metodam Fiziologicheskikh Issledovanii Cheloveka, Moscow, 1962, p. 15-23, 32-36, 40-42, 65-68, 83-85, 88-89, 98-108, 163-165, 186-194, 199-202, 207.

Oiks, G. N., Matevosyan, P. A. and others.
NEW TECHNOLOGY FOR MAKING BALL BEARING STEEL.
Mono. Novaya Tekhnologiya Vyplavki Sharikopodshipnikovoi Stali, Moscow, 1962, p. 1-126.

Pisarenko, G. S., Troshchenko, V. T. and others.
STRENGTH OF POWDER-METAL MATERIALS AND ALLOYS AT NORMAL AND HIGH TEMPERATURES.
Mono. Prochnost' Metallokeramicheskikh Materialov i Splavov pri Normal'nykh i Vysokikh Temperaturakh, Kiev, 1962, p. 1-275.

Samarskii, A. A.
LOCALLY ONE-DIMENSIONAL DIFFERENCE SCHEMES ON MONUNIFORM NETS.
Zhurnal Vychislitel'noi Matematiki i Matematicheskoi Fiziki (USSR) 1963, v. 3, no. 3, p. 431-466.

Skryabin, K. I., ed.
TREMATODES OF ANIMALS AND MAN, VOL. 17.
PL-480 Mono. Trematody Zhivotnykh i Cheloveka, v. 17, Moscow, 1960, 643p.

Sokolov, A. V.
OPTICAL PROPERTIES OF METALS.
Mono. Opticheskie Svoistva Metallov [Moscow, 1961, 464p.]
To be published by Blackie & Son Lts., 5 Fitzhardinge St., London, W.1, England.

Solodov, A. V.
LINEAR AUTOMATIC CONTROL SYSTEMS WITH VARYING PARAMETERS.
Mono. Lineinye Sistemy Avtomaticheskogo Upravleniya s Peremennymi Parametrami [Moscow, 1962, 324p.]
To be published by Blackie & Son Ltd., 5 Fitzhardinge St., London, W.1, England.

PERIODICALS TRANSLATED COVER-TO-COVER

For basic list of Periodicals Translated Cover-to Cover see Technical Translations Volume 10, Number 1.

This basic list is kept up-to-date by giving only changes in the subsequent issues of Technical Translations.

Please note the following changes:

ENTOMOLOGICHESKOE OBOZRENIE
(Entomological Review)

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